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DOMESTIC MEDICINE,

OR,

A TREATISE

ON THE

PREVENTION AND CURE OF DISEASES,

BY

REGIMEN AND SIMPLE MEDICINES:

WITH OBSERVATIONS ON

SEA-BATHING, AND THE USE OF THE MINERAL WATERS.

TO WHICH IS ANNEXED,

A DISPENSATORY

FOR THE USE OF PRIVATE PRACTITIONERS.

BY WILLIAM BUCHAN, M. D.

FROM THE TWENTY-SECOND ENGLISH EDITION,
WITH CONSIDERABLE ADDITIONS, AND NOTES.

Exeter:
J. & B. WILLIAMS.

1828.

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Omnes homines artem medicam nosse oportet. — Sapientiæ cognitionem medicinæ sororem ac contubernalem esse puto. HIPPOCRATES.

Primoque medendi scientia, sapientiæ pars habebatur. — Rationalem quidem puto medicinam esse debere. CELSUS.

Quemadmodum sanitas omnium rerum pretium excedit, omnisque felicitatis fundamentum est, ita scientia vitæ ac sanitatis tuendæ omnium nobilissima, omnibusque hominibus commendatissima esse debet. HOFFMAN.

All men ought to be acquainted with the medical art. — I believe knowledge of medicine is the sister and companion of wisdom.

In early times skill in healing was esteemed a part of wisdom. — I believe the practice of medicine should be agreeable to reason.

As health is the most precious of all things, and is the foundation of all happiness, the science of protecting life and health is the noblest of all, and most worthy the attention of all mankind.

PREFACE.

THIS New Edition of the Domestic Medicine, comes before the public with fresh claims upon their attention. It has undergone a thorough revision, with considerable additions and improvements. The little obsolete or irrelevant matter, scattered here and there in the preceding edition, has been expunged, and its place supplied with information of a more useful and more recent nature, which it was deemed essentially necessary not to omit, in order that a book so familiar to all ranks of society, might keep pace with the various improvements and opinions which have taken place of late years in medical science.

In addition to the variety of new and interesting subjects above alluded to, numerous prescriptions, in English, with the Latin translation, selected from the practice of eminent medical practitioners, have been added, though in such a manner as not to interfere with the text of the author, being appended at the bottom of the page, where they are referred to from the body of the work. It ought, however, to have been previously mentioned, that, with the introduction of the prescriptions, and some additional histories of disease, an important alteration has been made in the distribution of the original matter, in order to give it more an appearance of method, conformable with modern nosological arrangement.

To the diseases of children, which, instead of commencing the work, as in the older, and still in the spurious editions extant, stand towards the end, is added much valuable medical instruction. The diseases of women are treated of at large, as well as those which occur during pregnancy; to these is added the management of lying-in women, as well as the necessary treatment to be adopted during the process of a natural labour, than which a more useful feature, for various assignable and obvious reasons, could not possibly have been introduced into a work that professes to treat of Domestic Medicine in a simple and comprehensive manner.

The dietetic, or that branch of medicine which has the regulation of diet for object, either in health or disease, as will readily be perceived, is placed at the commencement of the work; then follow the various diseases, nearly in the same succession as first laid down by the author.

Another most important feature to those already mentioned, will be found in the toxicological, or that part which treats of the different classes of poisons, (mineral, vegetable, aerial, and animal,) a subject every person ought, in some measure, to be acquainted with; as these deleterious substances are not unfrequently taken by accident, as well as designedly; and their effects are often so sudden and violent, as not to admit of delay, or allow time to procure the assistance of medical men.

The surgical department of this popular work has also experienced several very useful additions and alterations.

Under the head of casualties will be found many useful directions how to proceed in all cases of suspended animation, with the treatment laid down by the ROYAL HUMANE SOCIETY, as well as that recommended by writers in every department of medical jurisprudence, for the restoration of life.

The Appendix has also undergone some considerable improvement. To the list of drugs, with their lowest and greatest doses, has been added, the medicinal properties of each; thus presenting to the reader, at one view, the respective article, its virtues, with the smallest and largest quantity of it that may be taken at one time. The prescriptions of the author have also been slightly touched, without, however, causing them to vary much from their original form.

The additions, with the notes introduced in the preceding edition of this work, by the late Dr. A. P. Buchan, (1813) the highly respected and much lamented son of the Author, will be distinguished from those of the present edition, by the initials of his name. And the reason given for these additions, cannot be better explained than in his (Dr. A. P. Buchan's) own words: "Of some complaints," says he, "hitherto omitted, I know it was my father's intention to have inserted an account in a future edition. From notes found among his papers, combined with the result of my own observations, I have drawn up a history of the symptoms, and most approved treatment of CHOREA or ST. VITUS'S DANCE, FISTULA IN ANO and a peculiar kind of epidemic sore throat, named the mumps, which occasionally makes its appearance in this country, at distant intervals of time.

"Various affections of the lungs, comprised under the general denomination of consumption, too frequently prove fatal to the youth of this country, at an age when life is, for many reasons, peculiarly valuable. The remarks which I have ventured to introduce, on the means of detecting and counteracting the early tendencies to this complaint, originated in some apprehensions entertained concerning my own health at a former period of life, and they have since been matured by most extensive experience.

"It is not unreasonable to suppose, that the extensive circulation of so popular a work, must have had some influence on the state of public opinion. This influence may, I think, be distinctly traced in the generally improved treatment of children, respecting their clothing and diet, and the consequent amelioration of their health. Nor let it be forgotten, that the utility of those noble, and now flourishing charities, the HUMANE SOCIETY, for the recovery of persons apparently drowned; an institution for teaching the DEAF and DUMB to read and speak; and a school for the INDIGENT BLIND, was pointed out, and their establishment strongly recommended on the score of humanity, more than forty years ago, in the early editions of the Domestic Medicine."

The instances, if not without a parallel in the annals of literature, are, at least, extremely rare, of a work on the science of medicine having attained its twenty-second Edition of a series of large impressions. The Editor of the present Edition, by every possi

ble means, has endeavoured to maintain the claim of this Work to a continuance of that general approbation with which, for upwards of fifty years, it has been so eminently distinguished.

J. S. F.

London, May 1826.

AUTHOR'S PREFACE

When I first signified my intention of publishing the following sheets, I was told by my friends it would draw on me the resentment of the whole Faculty. As I never could entertain such an unfavourable idea, I was resolved to make the experiment, which indeed came out pretty much as might have been expected. Many whose learning and liberality of sentiments do honour to medicine, received the book in a manner which at once showed their indulgence, and the falsity of the opinion *that every Physician wishes to conceal his art;* while the more selfish and narrow-minded, generally the most numerous in every profession, have not failed to persecute both the book and its author.

The reception, however, which this work has met with from the Public, merits my most grateful acknowledgments. As the best way of expressing these, I have endeavoured to render it more generally useful, by enlarging the *prophylaxis*, or that part which treats of preventing diseases; and by adding many articles which had been entirely omitted in the former impressions. It is needless to enumerate these additions; I shall only say, that I hope they will be found real improvements.

The observations relative to Nursing and the Management of Children were chiefly suggested by an extensive practice among infants, in a large branch of the Foundling Hospital, were I had an opportunity not only of treating the diseases incident to childhood, but likewise of trying different plans of nursing, and observing their effects. Whenever I had it in my power to place the children under the care of proper nurses, to instruct these nurses in their duty, and to be satisfied that they performed it, very few of them died; but when, from distance of place, and other unavoidable circumstances, the children were left to the sole care of mercenary nurses, without any person to instruct or superintend them, scarcely any of them lived.

This was so apparent, as with me to amount to a proof of the following melancholy fact; *that almost one half of the human species perish in infancy, by improper management or neglect.* This reflection has made me often wish to be the happy instrument of alleviating the miseries of those suffering innocents, or of rescuing them from an untimely grave. No one, who has not had an opportunity of observing them, can imagine what absurd and ridiculous practices still prevail in the nursing and management of infants, and what numbers of lives are by that means lost to society. As these practices are chiefly owing to ignorance, it is to be hoped, that when nurses are better informed, their conduct will be more proper.

The application of medicine to the various occupations of life has been in general the result of observation. An extensive prac-

tice for several years, in one of the largest manufacturing towns in England, afforded me sufficient opportunities of observing the injuries which those useful people sustain from their particular employments, and likewise of trying various methods of obviating such injuries. The success which attended these trials was sufficient to encourage this attempt, which I hope will be of use to those who are under the necessity of earning their bread by such employments as are unfavourable to health.

I do not mean to intimidate men, far less to insinuate that even those arts, the practice of which is attended with some degree of danger, should not be carried on; but to guard the less cautious and unwary against those dangers which they have it in their power to avoid, and which they often, through mere ignorance, incur. As every occupation in life disposes those who follow it to some particular diseases more than to others, it is certainly of importance to know these, in order that people may be upon their guard against them. It is always better to be warned of the approach of an enemy, than to be surprised by him, especially where there is a possibility of avoiding the danger.

The observations concerning Diet, Air, Exercise, &c. are of a more general nature, and have not escaped the attention of Physicians in any age. They are subjects of too great importance, however, to be passed over in any attempt of this kind, and can never be sufficiently recommended. The man who pays a proper attention to these, will seldom need the physician; and he who does not will seldom enjoy health, let him employ as many physicians as he pleases.

Though we have endeavoured to point out the causes of diseases, and to put people upon their guard against them, yet it must be acknowledged that they are often of such a nature as to admit of being removed only by the diligence and activity of the public magistrate. We are sorry, indeed, to observe, that the power of the magistrate is seldom exerted in this country for the preservation of health. The importance of a proper medical police is either not understood, or little regarded. Many things highly injurious to the public health are daily practised with impunity, while others, absolutely necessary for its preservation, are entirely neglected.

Some of the public means of preserving health are mentioned in the general prophylaxis, as the inspection of provisions, widening the streets of great towns, keeping them clean, supplying the inhabitants with wholesome water, &c.; but they are passed over in a very cursory manner. A proper attention to these would have swelled this volume to too large a size; I have, therefore, reserved them for the subject of a future publication.

In the treatment of diseases, I have been peculiarly attentive to regimen. The generality of people lay too much stress upon Medicine, and trust too little to their own endeavours. It is always in the power of the patient, or of those about him, to do as much towards his recovery as can be effected by the physician. By not attending to this, the designs of Medicines are often frustrated: and the patient, by pursuing a wrong plan of regimen, not only defeats the doctor's endeavours, but renders them dangerous. I have often known patients killed by an error in regimen, when they

were using very proper medicines. It will be said the physician always orders the regimen, when he prescribes a medicine. I wish it were so, both for the honour of the Faculty and the safety of their patients; but physicians, as well as other people, are too little attentive to this matter.

Though many reckon it doubtful whether physic is more beneficial or hurtful to mankind, yet all allow the necessity and importance of a proper regimen in diseases. Indeed, the very appetites of the sick prove its propriety. No man in his senses ever imagined that a person in a fever, for example, could eat, drink, or conduct himself in the same manner as one in perfect health. This part of medicine, therefore, is evidently founded in Nature, and is every way consistent with reason and common sense. Had men been more attentive to it, and less solicitous in hunting after secret remedies, Medicine had never become an object of ridicule.

This seems to have been the first idea of Medicine. The ancient physicians acted chiefly in the capacity of nurses. They went very little beyond aliment in their prescriptions; and even this they generally administered themselves, attending the sick for that purpose through the whole course of the disease; which gave them an opportunity, not only of marking the changes of diseases with great accuracy, but likewise of observing the effects of their different applications, and adapting them to the symptoms.

The learned Dr. Arbuthnot asserts, that by a proper attention to those things which are almost within the reach of every body, more good and less mischief will be done in acute diseases, than by medicines improperly and unseasonably administered; and that great cures may be effected in chronical distempers by a proper regimen of the diet only. So entirely do the Doctor's sentiments and mine agree, that I would advise every person, *ignorant* of physic, to confine his practice solely to diet, and the other parts of regimen; by which means he may often do much good, and can seldom do any hurt.

This seems also to have been the opinion of the ingenious Dr. Huxham, who observes, that we often seek from art, what all-bountiful Nature most readily, and as effectually, offers us, had we diligence and sagacity enough to observe and make use of them; that the *dietetic* part of medicine is not so much studied as it ought to be; and that, though less pompous, yet it is the most natural method of curing diseases.

To render this book more generally useful, however, as well as more acceptable to the intelligent part of mankind, I have in most diseases, besides regimen, recommended some of the most simple and approved forms of medicine, and added such cautions and directions as seemed necessary for their safe administration. It would no doubt have been more acceptable to many, had the book abounded with pompous prescriptions, and promised great cures in consequence of their use; but this was not my plan: I think the administration of medicines always doubtful, and often dangerous, and would much rather teach men how to avoid the necessity of using them, than how they should be used.

Several medicines, and those of considerable efficacy, may be administered with great freedom and safety. Physicians generally

trifle a long time with medicines before they learn their proper use. Many peasants at present know better how to use some of the most important articles in the *Materia Medica*, than physicians did a century ago; and doubtless the same observation will hold with regard to others for some time hence. Wherever I was convinced that medicine might be used with safety, or where the cure depended chiefly upon it, I have taken care to recommend it; but where it was either highly dangerous, or not very necessary, it is omitted.

I have not troubled the reader with a useless parade of quotations from different authors, but have generally adopted their observations where my own were either defective or totally wanting. Those to whom I am most obliged are, Ramazina, Arbuthnot, and Tissot; the last of which, in his *Avis au Peuple*, comes the nearest to my views of any author which I have seen. Had the Doctor's plan been as complete as the execution is masterly, we should have had no occasion for any new treatise of this kind soon; but by confining himself to the acute diseases, he has in my opinion omitted the most useful part of the subject. People in acute diseases may sometimes be their own physicians; but in chronic cases, the cure must ever depend chiefly upon the patient's own endeavours. The Doctor has also passed over the *Prophylaxis*, or preventive part of medicine, very slightly, though it is certainly of the greatest importance in such a work. He had no doubt his reasons for so doing, and I am so far from finding fault with him, that I think his performance does great honour both to his head and to his heart.

Several other foreign physicians of eminence have written on nearly the same plan with Tissot, as the Baron Van Swieten, physician to Their Imperial Majesties; M. Rosen, first physician of the kingdom of Sweden, &c.; but these gentlemen's productions have never come to my hand. I cannot help wishing, however, that some of our distinguished countrymen would follow their example. There still remains much to be done on this subject, and it does not appear to me how any man could better employ his time or talents, than in eradicating hurtful prejudices, and diffusing useful knowledge among the people.

I know some of the Faculty disapprove of every attempt of this nature, imagining that it must totally destroy their influence. But this notion appears to me to be as absurd as it is illiberal. People in distress will always apply for relief to men of superior abilities, when they have it in their power; and they will do this with greater confidence and readiness when they believe that Medicine is a rational science, than when they take it to be only a matter of mere conjecture.

Though I have endeavoured to render this Treatise plain and useful, yet I found it impossible to avoid some terms of art; but those are in general either explained, or are such as most people understand. In short, I have endeavoured to conform my style to the capacities of mankind in general; and, if my readers do not flatter either themselves or me, with some degree of success. On a medical subject, this is not so easy a matter as some may imagine. To make a show of learning, is easier than to write plain

sense, especially in a science which has been kept at such a distance from common observation. It would, however, be no difficult matter to prove, that every thing valuable in the practical part of medicine is within the reach of common abilities.

It would be ungenerous not to express my warmest acknowledgments to those Gentlemen who have endeavoured to extend the usefulness of this Performance, by translating it into the language of their respective countries. Most of them have not only given elegant translations of the Book, but have also enriched it with many useful observations; by which it is rendered more complete, and better adapted to the climate and the constitutions of their countrymen. To the learned Dr. Duplanil of Paris, physician to the Count d'Artois, I lie under particular obligations; as this Gentleman has not only enlarged my treatise, but by his very ingenious and useful notes, has rendered it so popular on the Continent, as to occasion its being translated into all the languages of modern Europe.

I have only to add, that the book has not more exceeded my expectation in its success than in the effects it has produced. Some of the most pernicious practices, with regard to the treatment of the sick, have already given place to a more rational conduct; and many of the most hurtful prejudices, which seemed to be quite insurmountable, have in a great measure yielded to better information.

Of this a stronger instance cannot be given than in the inoculation of the small-pox. Few mothers, some years ago, would submit to have their children inoculated even by the hand of a Physician; yet nothing is more certain, than that of late many of them have performed this operation with their own hands; and as their success has been equal to that of the most dignified inoculators, there is little reason to doubt that the practice will become general. Whenever this shall be the case, more lives will be saved by inoculation alone, than are at present by all the endeavours of the Faculty.*

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* Allowance must here be made for the unacquaintance of the Author, at the time he wrote, with the blessings since derived from the inestimable discovery of vaccination. The above observations nevertheless, will be equally good and applicable at the present day, by the simple substitution of one word for another, viz.—for *Inoculation*, to read VACCINATION. ED.

INTRODUCTION.

THE improvements in medicine, since the revival of learning, have by no means kept pace with those of the other arts. The reason is obvious. Medicine has been studied by few, except those who intended to live by it as a business. Such, either from a mistaken zeal for the honour of medicine, or to raise their own importance, have endeavoured to disguise and conceal the art. Medical authors have generally written in a foreign language; and those who are unequal to this task, have even valued themselves upon couching, at least, their prescriptions, in terms and characters unintelligible to the rest of mankind.

The contentions of the clergy, which happened soon after the restoration of learning, engaged the attention of mankind, and paved the way for that freedom of thought and inquiry, which has since prevailed in most parts of Europe with regard to religious matters. Every man took a side in those bloody disputes; and every gentleman, that he might distinguish himself on one side or other, was instructed in Divinity. This taught people to think and reason for themselves in matters of religion, and at last totally destroyed that complete and absolute dominion which the clergy had obtained over the minds of men.

The study of law has likewise, in most civilized nations, been justly deemed a necessary part of the education of a gentleman. Every gentleman ought certainly to know at least the laws of his own country: and, if he were also acquainted with those of others, it might be more than barely an ornament to him.

The different branches of philosophy have also of late been very universally studied by all who pretended to a liberal education. The advantages of this are manifest. It frees the mind from prejudice and superstition; fits it for the investigation of truth; induces habits of reasoning and judging properly; opens an inexhaustible source of entertainment; paves the way to the improvement of arts and agriculture; and qualifies men for acting with propriety in the most important stations of life.

Natural History has likewise become an object of general attention; and it well deserves to be so. It leads to discoveries of the greatest importance. Indeed agriculture, the most useful of all arts, is only a branch of Natural History, and can never arrive at a high degree of improvement where the study of that science is neglected.

Medicine, however, has not, as far as I know, in any country, been reckoned a necessary part of the education of a gentleman. But surely no sufficient reason can be assigned for this omission. No science lays open a more extensive field of useful knowledge, or affords more ample entertainment to an inquisitive mind. Anat-

omy, Botany, Chemistry, and the *Materia Medica*, are all branches of Natural History, and are fraught with such amusement and utility, that the man who entirely neglects them has but a sorry claim either to taste or learning. If a gentleman has a turn for observation, says an excellent and sensible writer,* surely the natural history of his own species is a more interesting subject, and presents a more ample field for the exertion of genius, than the natural history of spiders and cockle-shells.

We do not mean that every man should become a physician. This would be an attempt as ridiculous as it is impossible. All we plead for is, that men of sense and learning should be so far acquainted with the general principles of medicine as to be in a condition to derive from it some of those advantages with which it is fraught; and at the same time to guard themselves against the destructive influence of Ignorance, Superstition, and Quackery.

As matters stand at present, it is easier to cheat a man out of his life than of a shilling, and almost impossible either to detect or punish the offender. Notwithstanding this, people still shut their eyes, and take everything upon trust that is administered by any pretender to medicine, without daring to ask him a reason for any part of his conduct. Implicit faith, everywhere else the object of ridicule, is still sacred here. Many of the Faculty are no doubt worthy of all the confidence that can be reposed in them; but as this can never be the character of every individual in any profession, it would certainly be for the safety, as well as the honour of mankind, to have some check upon the conduct of those to whom they entrust so valuable a treasure as health.

The veil of mystery, which still hangs over Medicine, renders it not only a conjectural, but even a suspicious art. This has been long ago removed from the other sciences, which induces many to believe that Medicine is a mere trick, and that it will not bear a fair and candid examination. Medicine, however, needs only to be better known, in order to secure the general esteem of mankind. Its precepts are such as every wise man would choose to observe, and it forbids nothing but what is incompatible with true happiness.

Disguising Medicine not only retards its improvement as a science, but exposes the profession to ridicule, and is injurious to the true interests of society. An art, founded on observation, can never arrive at any high degree of improvement, while it is confined to a few who make a trade of it. The united observations of all the ingenious and sensible part of mankind, would do more in a few years towards the improvement of Medicine, than those of the Faculty alone in a great many. Any man can tell when a medicine gives him ease as well as a physician; and if he only knows the name and dose of the medicine, and the name of the disease, it is sufficient to perpetuate the fact. Yet the man who adds one single fact to the stock of Medical observations, does more real service to the art than he who writes a volume in support of some favourite hypothesis.

Very few of the valuable discoveries in Medicine have been made by physicians. They have in general either been the effect of

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* Observations on the Duties and Offices of a Physician.

chance or of necessity, and have been usually opposed by the Faculty, till every one else was convinced of their importance. An implicit faith in the opinions of teachers, an attachment to systems and established forms, and the dread of reflections, will always operate upon those who follow Medicine as a trade. Few improvements are to be expected from a man who might ruin his character and family by even the smallest deviation from an established rule.

If men of letters, says the author of the performance quoted above, were to claim their right of inquiry into a matter that so nearly concerns them, the good effects in Medicine would soon appear. Such men would have no separate interest from that of the art. They would detect and expose assuming Ignorance under the mask of Gravity and Importance, and would be the judges and patrons of modest merit. Not having their understandings perverted in their youth by false theories, unawed by authority, and unbiassed by interest, they would canvass with freedom the most universally received principles in Medicine, and expose the uncertainty of many of those doctrines, of which a physician dares not so much as seem to doubt.

No argument, continues he, can be brought against laying open Medicine, which does not apply with equal, if not greater force, to religion; yet experience has shown, that since the laity have asserted their right of inquiry into these subjects, Theology, considered as a science, has been improved, the interests of real religion have been promoted, and the clergy have become a more learned, a more useful, and a more respectable body of men, than they ever were in the days of their greatest power and splendour.

Had other medical writers been as honest as this gentleman, the art had been upon a very different footing at this day. Most of them extol the merit of those men who brought Philosophy out of the schools, and subjected it to the rules of common sense. But they never consider that Medicine, at present, is in nearly the same situation that Philosophy was at that time, and that it might be as much improved by being treated in the same manner. Indeed, no science can either be rendered rational or useful, without being submitted to the common sense and reason of mankind. These alone stamp a value upon science; and what will not bear the test of these ought to be rejected.

I know it will be said, that diffusing medical knowledge among the people might induce them to tamper with Medicine, and to trust to their own skill, instead of calling a physician. The reverse of this, however, is true. Persons who have most knowledge in these matters, are commonly most ready both to ask and follow advice, when it is necessary. The ignorant are always most apt to tamper with Medicine, and have the least confidence in physicians. Instances of this are daily to be met with among the ignorant peasants, who, while they absolutely refuse to take a medicine which has been prescribed by a physician, will swallow with greediness any thing that is recommended to them by their credulous neighbours. Where men will act even without knowledge, it is certainly more rational to afford them all the light we can, than to leave them entirely in the dark.

It may also be alleged, that laying Medicine more open to mankind, would lessen their faith in it. This indeed would be the case with regard to some; but it would have a quite contrary effect upon others. I know many people who have the utmost dread and horror of every thing prescribed by a physician, but who will nevertheless readily take a medicine which they know, and whose qualities they are in some measure acquainted with. Hence it is evident, that the dread arises from the Doctor not from the drug. Nothing ever can or will inspire mankind with an absolute confidence in physicians, but an open, frank, and undisguised behaviour. Whilst the least shadow of mystery remains in the conduct of the Faculty, doubts, jealousies, and suspicions, will arise in the minds of men.

No doubt cases will sometimes occur, where a prudent physician may find it expedient to disguise a medicine. The whims and humours of men must be regarded by those who mean to do them service; but this can never affect the general argument in favour of candour and openness. A man might as well allege, because there are knaves and fools in the world, that he ought to take every one he meets for such, and to treat him accordingly. A sensible physician will always know where disguise is necessary; but it ought never to appear on the face of his general conduct.

The appearance of mystery in the conduct of physicians not only renders their art suspicious, but lays the foundations of Quackery, which is the disgrace of Medicine. No two characters can be more different than that of the honest physician and the quack; yet they have generally been very much confounded. The line between them is not sufficiently apparent; at least it is too fine for the general eye. Few persons are able to distinguish sufficiently between the conduct of that man who administers a secret medicine, and him who writes a prescription in mystical characters and an unknown tongue. Thus the conduct of the honest physician, which needs no disguise, gives a sanction to that of the villain, whose sole consequence depends upon secrecy.

No laws will ever be able to prevent quackery, while people believe that the quack is as honest a man, and as well qualified as the physician. A very small degree of medical knowledge, however, will be sufficient to break this spell; and nothing else can effectually undeceive them. It is the ignorance and credulity of the multitude, with regard to Medicine, which renders them such an easy prey to every one who has the hardiness to attack them on this quarter. Nor can the evil be remedied by any other means but by making them wiser.

The most effectual way to destroy quackery in any art or science, is to diffuse the knowledge of it among mankind. Did physicians write their prescriptions in the common language of the country, and explain their intentions to the patient, as far as he could understand them, it would enable him to know when the medicine had the desired effect; would inspire him with absolute confidence in the physician; and would make him dread and detest every man who pretended to cram a secret medicine down his throat.

Men in the different states of society, have very different views of

the same object. Some time ago it was the practice of this country for every person to say his prayers in Latin, whether he knew any thing of that language or not. This conduct, though sacred in the eyes of our ancestors, appears ridiculous enough to us; and doubtless some parts of ours will seem as strange to posterity. Among these we may reckon the present mode of medical prescription, which, we venture to affirm, will some time hence appear to have been completely ridiculous, and a very high burlesque upon the common sense of mankind.

But this practice is not only ridiculous, it is likewise dangerous. However capable physicians may be of writing Latin, I am certain apothecaries are not always in a condition to read it, and that dangerous mistakes, in consequence of this, often happen. But suppose the apothecary ever so able to read the physician's prescription, he is generally otherwise employed, and the business of making up prescriptions is left entirely to the apprentice. By this means the greatest man in the kingdom, even when he employs a first-rate physician, in reality trusts his life in the hands of an idle boy, who has not only the chance of being very ignorant, but likewise giddy and careless. Mistakes will sometimes happen in spite of the greatest care; but, where human lives are concerned, all possible methods ought certainly to be taken to prevent them. For this reason, the prescriptions of physicians, instead of being couched in mystical characters and a dead language, ought, in my humble opinion, to be conceived in the most plain and obvious terms imaginable.

Diffusing medical knowledge among the people would not only tend to improve the art, and to banish quackery, but likewise to render Medicine more universally useful, by extending its benefits to society. However long Medicine may have been known as a science, we will venture to say, that many of its most important purposes to society have either been overlooked, or very little attended to. The cure of diseases is doubtless a matter of great importance; but the preservation of health is of still greater. This is the concern of every man, and surely what relates to it ought to be rendered as plain and obvious to all as possible. It is not to be supposed that men can be sufficiently upon their guard against diseases, who are totally ignorant of their causes. Neither can the Legislature, in whose power it is to do much more for preserving the public health than can ever be done by the Faculty, exert that power with propriety, and to the greatest advantage, without some degree of medical knowledge.

Men of every occupation and condition in life might avail themselves of a degree of medical knowledge; as it would teach them to avoid the dangers peculiar to their respective stations; which is always easier than to remove their effects. Medical knowledge, instead of being a check upon the enjoyments of life, only teaches men how to make the most of them. It has indeed been said, *that to live medically, is to live miserably:* but it might with equal propriety be said, that to live rationally is to live miserably. If physicians obtrude their own ridiculous whims upon mankind, or lay down rules inconsistent with reason or common sense, no doubt they will be despised. But this is not the fault of Medicine. It proposes no

rules that I know, but such as are perfectly consistent with the true enjoyment of life, and every way conducive to the real happiness of mankind.

We are sorry indeed to observe, that Medicine has hitherto hardly been considered as a popular science, but as a branch of knowledge solely confined to a particular set of men, while all the rest have been taught not only to neglect, but even to dread and despise it. It will however appear, upon a more strict examination, that no science better deserves their attention, or is more capable of being rendered generally useful.

People are told, that if they dip the least into medical knowledge, it will render them fanciful, and make them believe they have every disease of which they read. This I am satisfied will seldom be the case with sensible people; and suppose it were, they must soon be undeceived. A short time will show them their error, and a little more reading will infallibly correct it. A single instance will show the absurdity of this notion. A sensible lady, rather than read a medical performance, which would instruct her in the management of her children, generally leaves them entirely to the care and conduct of the most ignorant, credulous, and superstitious part of the human species.

No part of Medicine is of more general importance than that which relates to the nursing and management of children. Yet few parents pay a proper attention to it. They leave the sole care of their tender offspring, at the very time when care and attention are most necessary, to hirelings, who are either too negligent to do their duty or too ignorant to know it. We will venture to affirm, that more human lives are lost by the carelessness and inattention of parents and nurses, than are saved by the Faculty; and that the joint and well-conducted endeavours, both of private persons and the public, for the preservation of infant lives, would be of more advantage to society than the whole art of Medicine, upon its present footing.

The benefits of Medicine, as a trade, will ever be confined to those who are able to pay for them; and of course, the far greater part of mankind will be everywhere deprived of them. Physicians, like other people, must live by their employment, and the poor must either want advice altogether, or take up with that which is worse than none. There are not, however, anywhere wanting well-disposed people, of better sense, who are willing to supply the defect of medical advice to the poor, did not their fear of doing ill often suppress their inclination to do good. Such people are often deterred from the most noble and praise-worthy actions, by the foolish alarms sounded in their ears by a set of men, who, to raise their own importance, magnify the difficulties of doing good, find fault with what is truly commendable, and fleer at every attempt to relieve the sick which is not conducted by the precise rules of Medicine. These gentlemen must, however, excuse me for saying, that I have often known such well-disposed persons do much good; and that their practice, which is generally the result of good sense and observation, assisted by a little medical reading, is frequently more rational than that of the ignorant retainer to physic, who despises both reason and observation, *that he may go wrong by rule;* and

who, while he is dosing his patient with Medicines, often neglects other things of far greater importance.

Many things are necessary for the sick besides Medicine. Nor is the person who takes care to procure these for them, of less importance than a physician. The poor oftener perish in diseases for want of proper nursing than of Medicine. They are frequently in want of even the necessaries of life, and still more so of what is proper for a sick-bed. No one can imagine, who has not been a witness of these situations, how much good a well-disposed person may do, by only taking care to have such wants supplied. There certainly cannot be a more necessary, a more noble, or a more godlike action, than to administer to the wants of our fellow-creatures in distress. While virtue or religion are known among mankind, this conduct will be approved; and while heaven is just, it must be rewarde. !

Persons who do not choose to administer Medicine to the sick, may nevertheless direct their regimen. An eminent medical author has said, That by diet alone all the intentions of Medicine may be answered.* No doubt a great many of them may; but there are other things besides diet, which ought by no means to be neglected. Many hurtful and destructive prejudices, with regard to the treatment of the sick, still prevail among the people, which persons of better sense and learning alone can eradicate. To guard the poor against the influence of these prejudices, and to instil into their minds some just ideas of the importance of proper food, fresh air, cleanliness, and other pieces of regimen necessary in diseases, would be a work of great merit, and productive of many happy consequences. A proper regimen, in most diseases, is at least equal to Medicine, and in many of them it is greatly superior.

To assist the well-meant endeavours of the humane and benevolent in relieving distress; to eradicate dangerous and hurtful prejudices; to guard the ignorant and credulous against the frauds and impositions of quacks and imposters; and to show men what is in their own power, both with regard to the prevention and cure of diseases, are certainly objects worthy of the physician's attention. These were the leading views in composing and publishing the following sheets. They were suggested by an attention to the conduct of mankind, with regard to Medicine, in the course of a pretty long practice in different parts of this island, during which the author has often had occasion to wish that his patients, or those about them, had been possessed of some such plain directory for regulating their conduct. How far he has succeeded in his endeavours to supply this deficiency, must be left to others to determine: but if they be found to contribute in any measure towards alleviating the calamities of mankind, he will think his labour very well bestowed.

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* Arbuthnot.

TABLES OF WEIGHTS AND MEASURES

USED IN WEIGHING MEDICINE, &c.

THERE are two kinds of weights received in use in England, by one of which gold and silver, and by the other, nearly all kinds of merchandize are estimated. In medicine, the former (Troy weight) is adopted, by which the pound is divided as follows :—

The Pound	contains	twelve Ounces.
Ounce		eight Drachms.
Drachm		three Scruples.
Scruple		twenty Grains.

The liquid measure also differs, one being proper for ale, the other for wine; the latter of which is adopted.

The wine gallon is defined by the laws of the kingdom, which is thus divided for medicinal purposes :—

The Gallon. C.	contains	eight Pints.
Pint		sixteen Fluid Ounces.
Fluid Ounce		eight Fluid Drachms.
Fluid Drachm		sixty Minims.*

*** Acid, alkaline, earthy, and metalic preparations, and salts of all kinds, should be kept in glass-stopped bottles.

The degree of heat is measured by Fahrenheit's thermometer, and when a boiling heat is prescribed, it is that which is marked by the 212th degree. A gentle heat is between the ninetieth and hundredth.

A TABLE OF PROPORTIONATE DOSES,

REGULATED FOR ALL AGES.

Ages.	Suppose the common dose 1 Drachm.	Proportionate Dose.
Weeks 7	1-15	4 grains.
Months 7	1-12	5 grains.
14	1-8	8 grains.
28	1-6	12 grains.
Years 3½	1-4	25 grains.
5	1-3	1 scruple.
7	1-2	½ drachm.
14	2-3	2 scruples.
21	—	1 drachm.
63	1½	55 grains.
77	5-6	2½ scruples.
100	4-5	2 scruples.

UTENSILS

NECESSARY FOR THE FAMILY MEDICINE CHEST.

1. A two or three ounce graduated measure.
2. A large and small spatula for spreading ointments, plasters, &c.
3. Weights and scales; — a larger set to weigh ounces; — a smaller for grains, scruples, and drachms.
4. A clyster syringe.
5. A pint marble mortar and pestle.
6. A half pint glass do.
7. A slab of marble, or of Wedgewood's composition, for sundry purposes.
8. A minim glass, &c. &c.

* A minim glass is used for measuring the smallest portions of liquids, marked at regular intervals Reckoning by drops is sometimes deceiving, according to the neck of the vehicle whence they fall, as well as uncertain; as just twice as many drops of any tincture is required for filling the same measure as water.

DOMESTIC MEDICINE,

&c. &c.

CHAP. I.

OBSERVATIONS ON DIET, PARTICULARLY THAT OF THE COMMON PEOPLE.

EXPERIENCE proves, that not a few of the diseases incident to the inhabitants of this country, are owing to their mode of living. The vegetable productions they consume fall considerably short of the proportion they ought to bear to the animal part of their food. The constant use of bread and animal substances excites an unnatural thirst, and leads to the immoderate use of beer and other stimulating liquors, which generate disease, and reduce the lower orders of the people to a state of indigence. To teach the poor man how to live cheaper and better, is the design of the following pages.

Though the common people of this country live at a greater expense than any where else, it does not follow that they live better. They are strong indeed, but by no means healthy; and it is found that, from an attachment to a particular mode of living, they are more liable to disease and death in foreign climates, than the inhabitants of any other country.

It is certainly proper that the poor man should be instructed in every thing that can make his little earnings go as far as possible, or which can add to the comfort of himself and family. Nor can economy in living be deemed a trivial virtue, in a country where the richer depend on the cheapness of labour.

It is alleged that the English are so much attached to their own modes of living, that no argument will induce them to make the smallest change. Habits are indeed obstinate things, especially those which relate to diet; but there are proofs that the English are not inflexible even in this matter. The mode of living among the lower orders has been greatly changed in my time, and I am sorry to say, not for the better.

The people of England have too much good sense not to listen to reason, provided due care were taken to instruct them. But here the people may be truly said "*to perish for want of knowledge.*" No means have been used to give them proper instruction. Hurtful customs have been suffered to prevail, till they have struck such deep roots that it will not be an easy matter to eradicate them. The difficulty, however, is not insurmountable. A few experi-

ments of reform would have the effect to render it as agreeable as it is salutary.

Adults have many old prejudices to overcome, but the case is different in regard to children. They may be taught to use any kind of food, and what they use when young, they will love when old. If I can introduce a different method of feeding children, my purpose will be answered. This alone will, in time, effect a total change in the general mode of living.

Particular attention has been paid to the substitutes for bread, as the scarcity of this article proves peculiarly distressing to the poor. It will appear from the following pages, that bread is by no means so much a necessary of life as is generally imagined, and that its place may, in many instances, be supplied by a variety of other farinaceous substances.

GENERAL OBSERVATIONS ON ALIMENT.

No creature eats such a variety of food as man. Intended for an inhabitant of every climate, he devours the productions of them all; and if they do not suit his palate, or agree with his stomach, he calls in the aid of cookery, an art peculiar to himself; by which many things that, in a crude state, would prove hurtful, or even poisonous, are rendered wholesome and salutary.

The obvious division of food is into animal and vegetable. To say that man was intended by nature for using either the one or the other alone, would be absurd. His structure and appetite prove that he was formed for both. Judgment, however, is requisite in adjusting the due proportion of each, so as to avoid the inconveniences arising from an extreme on either hand.

Though animal food is more nourishing than vegetable, it is not safe to live on that alone. Experience has shown that a diet, consisting solely of animal food, excites thirst and nausea, occasions putrescence in the stomach and bowels, and finally brings on violent griping pains, with cholera and dysentery.

Animal food is less adapted to the sedentary than the laborious, and least of all to the studious, whose diet ought to consist chiefly of vegetables. Indulging in animal food renders men dull, and unfit for the pursuits of science, especially when it is accompanied with the free use of strong liquors.

The plethoric, or persons of a full habit, should eat sparingly of animal food. It yields far more blood than vegetables taken in the same quantity, and, of course, may induce inflammatory disorders. It acts as a stimulus to the whole system, by which means the circulation of the blood is greatly accelerated.

I am inclined to think that consumptions, so common in England, are in part owing to the great use of animal food. Though pulmonary consumption is not, properly speaking, an inflammatory disease, yet it generally begins with symptoms of inflammation, and is often accompanied with them through its whole progress.

But the disease most common to this country is the scurvy. One finds a taint of it in almost every family, and in some the taint is very deep. A disease so general must have a general cause, and there is none so obvious as the great quantity of salted

animal food devoured by the natives. As a proof that scurvy arises from this cause, we are in possession of no remedy for that disease equal to the free use of vegetables.

By the uninterrupted use of animal food, a putrid diathesis is induced in the system, which predisposes to a variety of disorders. I am fully convinced, that many of those obstinate complaints for which we are at a loss to account, and find it still more difficult to cure, are the effects of a scorbutic taint lurking in the habit.

Improper diet affects the mind as well as the body. The choleric disposition of the English is almost proverbial. Were I to assign a cause, it would be, their living so much on animal food. There is no doubt but this induces a ferocity of temper unknown to men whose food is chiefly taken from the vegetable kingdom.

Though these and similar consequences may arise from the excess of animal diet, we are far from discouraging its use in moderation. In all cold countries it is certainly necessary; but the major part of the aliment ought, nevertheless, to consist of vegetable substances. There is a continual tendency in animal food, as well as in the human body itself, to putrefaction, which can only be counteracted by the free use of vegetables.

With regard to the proportion of vegetable food to that of animal, great nicety is by no means required. It must vary according to circumstances, as the heat of the weather, the warmth of the climate, and the like. The vegetable part, however, where nothing forbids, ought certainly to preponderate, and I think in the proportion at least of two to one.

The excessive consumption of animal food is one great cause of the scarcity of grain. The food that a bullock affords bears but a small proportion to the quantity of vegetable matter he consumes.

I am no enemy to good fruit, as an article of diet; but the greater part of what is used in this country, by the lower orders of the people, is mere trash. Fruit should be eaten in the early part of the day, when the stomach is not loaded with food, and it never ought to be eaten raw till it is thoroughly ripe.

OF BREAD.

Bread, or something resembling it, makes a part of the diet of all nations. Hence it is emphatically denominated *the staff of life*. It may, however, be used too freely. The late Dr. Fothergill was of opinion, and I perfectly agree with him, that most people eat more bread than is conducive to their health. I do not mean to insinuate that bread is unwholesome, but that the best things may prove hurtful when taken to excess. A surfeit of bread is more dangerous than one of any other food. *Omnis repletio mala, repletio panis pessima.* The French consume vast quantities of bread; but its bad effects are prevented by their copious use of soups and fruits, which have little or no share in the diet of the common people of England.

One important use of bread is to form a mass fit for filling up the alimentary canal, and carrying the nutritious juices along that passage in such a state, as to render them fit to be acted upon by the lacteal absorbents, which take up the nourishment, and convey

it to the blood. In this light, bread may be considered as a soil from whence the nourishment is drawn. I do not say that bread contains no nourishment, but that its use, as an article of diet, does not solely depend on the quantity of nutriment it contains, but in some measure on its fitness as a vehicle for conveying the nutritious particles through the intestinal tubes. Hence it follows, that the finest bread is not always the best adapted for answering the purposes of nutrition.

The richest food will not nourish an animal, unless the alimentary canal is sufficiently distended. A dog has been fed on the richest broth, yet could not be kept alive; while another, which had only the meat boiled to a chip, and water, throve very well. This shows the folly of attempting to nourish men on alimentary powders and other concentrated food.

The great art, therefore, of preparing food, is to blend the nutritive part of the aliment with a sufficient quantity of some light farinaceous substance, in order to fill up the canal, without overcharging it with more nutritious particles than are necessary for the support of the animal. This may be done either by bread, or other farinaceous substances, of which there is a great variety, as will appear from the sequel.

Bread is one of the most expensive modes of using grain, and not adapted to the narrow circumstances of the lower orders of the people, as it is burthened with two heavy additional charges, in passing through the hands of both the miller and the baker. Besides, the former often grinds down extraneous matter with the wheat, and the latter as frequently bakes it up with the addition of lime, chalk, alum, and other pernicious substances. Since the articles of diet have become branches of manufacture, the public neither know what they eat, nor what they drink.

People imagine, as the finest flour contains the greatest quantity of nourishment, that it must therefore be the most proper for making into bread; but this by no means follows. The finest flour comes the nearest to starch, which, though it may occasionally prove a good medicine, makes bad bread. Household bread, which is made by grinding down the whole grain, and only separating the coarser bran, is, without doubt, the most wholesome.

The best household bread I ever remember to have eaten was in the county of York. It was what they call *meslin bread*, and consisted of wheat and rye ground together. I am not quite certain as to the proportion, but I think there might be two parts of the former to one of the latter. This bread, when well fermented, eats light, is of a pleasant taste, and soluble to the bowels. After using it for some years, I found that bread, made entirely of flour, was neither so agreeable to the palate, nor so conducive to health.

Bread is often spoiled to please the eye. The artificially whitened, drying, stuffing bread, though made of the heart of the wheat, is, in reality, the worst of any; yet this is the bread which most people prefer, and the poorer sort will eat no other.

All the different kinds of grain are occasionally made into bread, some giving the preference to one and some to another, according to early custom and prejudice. The people of South Britain generally prefer bread made of the finest wheat-flour

while those of the northern countries eat a mixture of flour and oatmeal, or rye-meal, and many give the preference to bread made of oatmeal alone. The common people of Scotland also eat a mixed bread, but more frequently bread of oatmeal only. In Germany the common bread is made of rye, and the American labourer thinks no bread so strengthening as that which is made of Indian corn; nor do I much doubt but the Laplander thinks his bread made of the bones of fishes is the best of any.

Bread made of different kinds of grain is more wholesome than what is made of one only, as their qualities serve to correct one another. For example, wheat flour, especially the finer kind, being of a starchy nature, is apt to occasion constipation. Bread made of rye-meal, on the other hand, proves often too slippery for the bowels. A due proportion of these makes the best bread.

For the more active and laborious I would recommend a mixture of rye with the stronger grains, as peas, beans, barley, oats, Indian corn, and the like. These may be blended in many different ways: they make a hearty bread for a labouring man, and, to use his own language, they lie longer on his stomach than bread made of wheat-flour only. Barley-bread passes too quickly through the alimentary canal to afford time for conveying the proper nourishment; but bread made of barley mixed with peas is very nourishing.

When potatoes, or boiled grain, are used, bread ceases to be a necessary article of diet. During the late scarcity of bread, I made it a rule not to eat above one half the quantity I used to do, and I found no inconveniency whatever from the change. Nay, some told me, that for a considerable time they had left off the use of bread altogether, without experiencing any change in the state of their health.

A great part of the bread consumed in this country is by children. It is always ready, and when the child calls for food, a piece of bread is put into its hand, to save the trouble of dressing any other kind of victuals. Of many children this is the principal food, but it is far from being the most proper. Children are often troubled with acidities of the stomach and bowels; and it is well known that bread mixed with water, and kept in a degree of heat equal to that of the human stomach, soon turns sour.

During the late scarcity, many of the labouring men, and even artificers, could not earn as much money as was sufficient to keep their families in the article of bread only. It is certain, however, that on a different plan such families might have lived very comfortably. Many of the articles of diet are cheaper than bread, and equally wholesome. Above one half of the expense of living might be saved, by a due selection of the articles of diet.

The English labourer lives chiefly on bread, which being accompanied with other dry, and often salt food, fires his blood, and excites an unquenchable thirst, so that his perpetual cry is for drink.

But the greatest consumption of bread is occasioned by tea. It is said that the subjects of Great Britain consume a greater quantity of that herb, than the whole inhabitants of all the other nations of this quarter of the globe. The lowest woman in

England must have her tea, and the children generally share it with her. As tea contains no nourishment, either for young or old, there must of course be bread and butter to eat along with it. The quartern loaf will not go far among a family of hungry children, and if we add the cost of tea, sugar, butter, and milk, the expense of one meal will be more than would be sufficient to fill their bellies with wholesome food three times a-day.

There is reason to believe that one half the bread consumed in England is used to tea, without one hearty meal ever being made of it. The higher ranks use tea as a luxury, while the lower orders make a diet of it. I had lately occasion to see a striking instance of this in a family, that was represented to me as in distress for want of bread. I sent them a little money, and was informed that they ran with it directly to the tea-shop.

To a heavy, sluggish, phlegmatic man, a moderate use of tea may not prove pernicious; but where there is a debilitated stomach and an irritability of fibre, it never fails to do much hurt. With many it has the effect to prevent sleep.

Tea will induce a total change of constitution in the people of this country. Indeed, it has gone a great way towards effecting that evil already. A debility, and consequent irritability of fibre, are become so common, that not only women, but even men, are affected with them. That class of diseases, which, for want of a better name, we call nervous, has made almost a complete conquest of the one sex, and is making hasty strides towards vanquishing the other.

Did women know the train of diseases induced by debility, and how disagreeable these diseases render them to the other sex, they would shun tea as the most deadly poison. No man can love a woman eaten up with vapours, or washed down with diseases arising from relaxation.

It is not tea taken as a beverage after a full meal, or in a crowded assembly, that I so much condemn, though I think something as elegant and less pernicious might be substituted in its place. The mischief occasioned by tea arises chiefly from its being substituted for solid food. This is so much the case at present, that, had I time to spare, I think it could not be better employed than in writing against this destructive drug.

BOILED GRAIN.

Though farinaceous substances, of one kind or another, make a necessary part of the food of man, yet there can be no reason why such substances should always assume the name and form of bread. Many of them are more wholesome, and not less agreeable, in other forms. Bread is often used merely to save the trouble of cookery; and, being portable, is the most convenient article of diet for carrying abroad.

It does not, however, admit of a doubt, that more grain is eaten boiled, though not in this country, than is made into bread; and that this mode of cookery is the most wholesome. Simple boiling precludes all adulteration, and is an operation much less laborious and artificial than baking.

The most general article of diet among mankind is rice. This may be made into a variety of dishes; but simple boiling is all that is required, to render it a proper substitute for bread. It may either be eaten alone, or with milk. In the east, it is used with meat, in the same manner as we do bread. The people of this country believe that rice proves injurious to the eyes; but this seems to be without foundation, as it has no such effect on those who make it the principal part of their food.

Many other kinds of grain will, when boiled, make good substitutes for bread. Even those which make a harsh and unpleasant sort of bread, are often rendered very palatable by boiling. This is the case with all the leguminous class of plants, as peas, beans, &c. Even oats and barley are more agreeable, as well as more wholesome, when boiled, than made into bread.

All allow that peas and beans boiled, when young, are a great luxury; but when old, they are equally wholesome, and when properly cooked, by no means unpleasant. There are few who do not relish peas-pudding, and even prefer it to bread. Beans are not so fit for this purpose; but they make an excellent ingredient in the poor man's broth, and whoever eats this broth will find little occasion for bread.

Peas and beans contain an equal quantity of sugar with wheat, oats, or barley, and at the same time a greater proportion of oil, consequently are more nourishing. This fact is confirmed by daily experience.

On those farms where peas and beans are raised in great abundance, the labourers are much fed on that sort of grain; but when removed to farms where they are fed with other kinds of grain, they soon complain of a diminution of strength, and request a supply of peas-meal as formerly.

Nature seems to have pointed out the propriety of the extensive use of peas and beans; it being a fact, that when crops of that kind are duly alternated with crops of wheat, barley, or oats, the fertility of the soil may be maintained, without rest or manure, for many years together. Whereas, if the latter be raised on the same soil for several years successively, they render it barren, so that, without rest or manure, its fertility cannot be preserved.

The people in England are but little accustomed to the use of boiled grain, though in many countries it is eaten as a luxury. Boiled barley is a great favourite with the Dutch, and is eaten with milk, butter, or molasses. It is the principal food of the Dutch sailors, who, in general, are both healthy and robust.

Barley is one of the best ingredients in soup. Count Rumford says, it possesses the quality of lithing, or thickening soups, in a superior degree to any other grain. We have reason, however, to believe that grits, or coarse oatmeal, will answer that purpose still better.

Oatmeal is frequently made into bread; but it is a much more wholesome, as well as agreeable food, when made into hasty-pudding, and eaten with milk. The peasants in many parts of Britain make two meals a-day of it, while their children almost wholly subsist on it; and it is well known that both old and young, who are thus fed, are healthy and robust.

The opinion of oatmeal being heating, and occasioning skin diseases, is wholly without foundation. Bread made of oatmeal, when not leavened, will sometimes occasion the heart-burn; but this is no proof of its heating quality. Unleavened bread, of wheat or any other grain, produces the same effect on a debilitated stomach. Oatmeal thoroughly boiled seldom gives the heart-burn.

Persons who are fed on oatmeal-bread, or hasty-pudding, are not more subject to diseases of the skin, than those who live on wheat-meal. Cutaneous disorders proceed more from the want of cleanliness, than from any particular aliment. The French, so far from thinking that oatmeal is heating, speak of it as possessed of a cooling quality, and even the English give oatmeal, or grit-gruel, to lying-in women, and sick people of every description, which shows that they are inconsistent with themselves, in alleging that the blood is fired by the use of oatmeal.

A lieutenant of the army, residing at a country-village within a few miles of Edinburgh, with a wife and ten children, having no other income than his half-pay, fed the whole of his children with hasty-pudding and butter-milk only, from a conviction that it was the most wholesome and full diet that fell within the reach of his narrow circumstances. They grew apace; and it was the universal remark of the neighbourhood, that they were as sprightly, healthy, and robust, as other children, and at the same time perfectly free from all skin-diseases.

Children are seldom well, unless when their bodies are gently open. But this is more likely to be the case when fed on oatmeal and milk, than when their bellies are crammed with a starchy substance made of the finest flour; yet this in England is the common food of children. I have seen an infant stuffed four or five times a-day with this kind of food. There needs no conjurer to tell the consequence.

A late author, a man of learning, but the dupe of prejudice, has, by a ridiculous definition, endeavoured to represent oats as proper food for horses only. I wish the horses in England devoured a smaller quantity of that grain, and the people more. Few things would have a greater tendency to lessen the expense of living. The oats in North Britain are of a superior quality, and I hope the people will long have the sense to use them as an article of diet.

Indian corn is likewise said to make the best food when boiled. Count Rumford observes, that of all things it makes the best pudding, and that he has made a hearty meal of it, sauce included, for five farthings. What makes good puddings will make good dumplings, and these will, at any time, supply the place of bread. The Count also remarks, that the Negroes in America prefer Indian corn to rice; and that the Bavarian peasants prefer it to wheat; that it might be imported from North America at about four or five shillings per bushel; that, when made into flour, it would cost only one penny farthing per pound; and that it is highly nutritious, and the cheapest food known. During the late scarcity, a large quantity of this grain was imported; but such is the aversion of the common people of this country to every sort of food to which they are not accustomed, that they refused to

purchase it, and the merchants were very great losers by the importation. On the same principle the Germans, till within these few years, could not be induced to eat potatoes, though now they are become extremely fond of them.

The American, the Italian, and the German, all cook Indian corn, in the same way as the North Britain does his oatmeal, by making it into hasty-pudding. It may be eaten in a variety of ways. Some eat it with a sauce composed of butter and brown sugar, or butter and molasses. Others eat it with milk only. In either way it makes a good, cheap, and wholesome diet, by no means disagreeable to those who are accustomed to it.

The only other grain we shall mention, as best when boiled, is buck-wheat: it is of a very mucilaginous nature, and, of course, highly nutritious. In several parts of Europe it constitutes a principal part of the food of the lower people. In former times it was eaten in Russia; not by the lower classes only; even the nobility made use of it. Boiled, and then buttered, it was such a favourite of the great Czar Peter, that he is said seldom to have supped on any thing else.

BUTTER.

It has been said, that the English have a thousand religions, and but one sauce. It must be allowed that they use butter with almost every kind of food. Butter, though a good article of diet, may be used too freely, and in this country, I am convinced, that is the case. To weak stomachs it is hurtful, even in small quantities, and when used freely it proves prejudicial to the strongest.

Butter, like other things of an oily nature, has a constant tendency to turn rancid. This process, by the heat of the stomach, is greatly accelerated, insomuch that many people, soon after eating butter, complain of its rising in their stomachs, in a state highly disagreeable. Oils of every kind are with difficulty mixed with watery fluids. This is the reason why butter floats in the stomach, and rises in such an unpleasant manner.

Persons afflicted with bile should use butter very sparingly. Some sceptical authors doubt whether or not aliment of any kind has an effect on the bile. One thing, however, is certain, that many patients, afflicted with complaints which were supposed to be occasioned by bile, have been completely cured by a total abstinence from butter.

The most violent bilious complaints that I ever met with, were evidently occasioned by food that became rancid on the stomach, as the cholera morbus, and the like. Nor can such complaints be cured, till the rancid matter is totally evacuated by vomiting and purging.

But supposing butter did not possess the quality of becoming rancid on the stomach, it may, nevertheless, prove hurtful to digestion. Oils of all kinds are of a relaxing quality, and tend to impede the action of digestion. Hence the custom of giving rich broths and fat meats to persons who have a voracious appetite.

The free use of butter, and other oily substances, not only tends to relax the stomach, and impede its action, but to induce a debility of the solids, which paves the way to many maladies. In a country where two-thirds of the inhabitants lead sedentary lives, a debility of fibre must predominate. Whatever increases that debility ought to be avoided.

Children, without exception, are disposed to diseases arising from relaxation. Butter, of course, ought to be given to them with a sparing hand. But is this the case? By no means. Bread and butter constitute a great part of the food of children, and I am convinced that the gross humours with which they are frequently troubled are partly owing to this food. As children abound with moisture, bread alone is, generally speaking, better for them than bread and butter.

I have been astonished to see the quantities of butter eaten by gross women who lead sedentary lives. Their tea-bread is generally contrived so as to suck up butter like a spunge. What quantities of crumpets and muffins they will devour in a morning, soaked with this oil; and afterwards complain of indigestion, when they have eaten what would overload the stomach of a ploughman! Dr. Fothergill is of opinion, that butter produces the nervous or sick head-ach, so common among the women of this country. As a proof of this it is often cured by an emetic.

Oils, in certain quantities, excite nausea, and even vomiting. They must, of course, prove unfriendly to digestion. A Dutch sailor, we are told, can digest train oil. So may an English sailor; but it would be very improper food for a London lady.

To some of the leaner farinaceous substances, as the potato, and the like, butter makes a very proper addition; but eating it to flesh and fish, of almost every description, is certainly wrong. The meat eaten in this country is generally fat enough without the addition of butter; and the more oily kinds of fish, as salmon or herrings, are lighter on the stomach, and easier digested, when eaten without it.

Butter is rather a gross food, and fitter for the athletic and laborious, than the sedentary and delicate. It is less hurtful when eaten fresh than salted. Salt butter certainly tends to induce skin-diseases, and I am inclined to think, the free use of it at sea may have some share in bringing on that dreadful malady, so destructive to our brave sailors, *the sea-scurvy*.

There is a method of rendering salt butter less hurtful, but it seems not to be known in England. What I mean is, to mix it with an equal quantity of honey, and keep it for use. In this way it may be given to children with greater freedom. In North Britain, this method of mixing butter with honey is well known and, from a common proverb, I take the custom to be very ancient.

Butter, in itself, is not near so hurtful, as when combined with certain other things. For example: bread made with butter is almost indigestible, and pastries of every kind are little better; yet many people almost live upon pastry, and it is universally given to children. It is little better, however, than poison, and never fails to disorder their stomachs. The fond mother cannot

pass a pastry-shop, without treating her darling boy with some of the dainties, and then wonders how he got the cough, or colic.

I have known a man seemingly in perfect health, who, by eating a pennyworth of pastry, as he passed along the street, was seized with such an asthmatic-fit, that he was obliged to be carried home, and had nearly lost his life. This occurred whenever he inadvertently ate any thing baked with butter.

Every thing that proves very injurious to health, ought, as far as possible, to be prohibited, by laying a high duty upon it. A duty on pastry would be serving the public in more respects than one. It would save many lives, and lessen some tax on necessaries.

Cheese, as a diet, is likewise injurious to health. It should never be eaten but as a dessert. It occasions constipation, fires the blood, and excites a constant craving for drink. It is very improper for the sedentary, and hardly to be digested even by the athletic.

If men will live on dry bread, poor cheese, salt butter, broiled bacon, and such like parching food, they will find their way to the ale-house, the bane of the lower orders, and the source of half the beggary in the nation.

FRUITS AND ROOTS.

Fruits and roots form a large class of the substitutes for bread. The latter, being produced under-ground, are less liable to suffer from the inclemency of the seasons than grain. Men who wish to inflame the minds of the multitude may inveigh against the substitutes for bread; but reason and sound sense say, the more substitutes for bread, the better. When one fails, recourse can be had to another.

In warm climates the inhabitants have many substitutes for bread: and as their seasons are more uniform than ours, they can generally depend on the plant, or whatever it is, proving productive. The plantain-tree, commonly called the Indian fig, which has from time immemorial been cultivated in South America, bears fruit of a sweetish taste, which will dissolve in the mouth without chewing. It is eaten either raw, fried, or roasted. When intended to supply the place of bread, it is gathered before it is ripe, and eaten either boiled or roasted. The banana is nearly of the same nature, but its fruit is greatly superior both in taste and flavour.

The inhabitants of the South Sea, or Ladrone islands, are supplied with bread from a tree, which has been lately imported into our West India islands, and will, it is hoped, be found to answer the same purpose there. It has a slight degree of sweetness, but not much flavour. It resembles new bread, and requires to be roasted before it is eaten. Those who have tasted it, say, that it is in no respect superior to the potato.

In some of the West India islands the inhabitants supply the place of grain by making bread from the root of a shrub, called the cassada, or cassava. Though, to my taste, this bread is very insipid, yet the natives are fond of it, to such a degree, that I have known some of them eat it, during their residence in England, in preference to the finest London bread.

But the most general substitutes for bread in the West Indies are the yams. There are three different species of this plant, the roots of which are promiscuously used for bread. They are said to be very nutritious, of easy digestion, and when properly dressed, are by some preferred to the best wheaten bread. The taste is somewhat like the potato, but more luscious. The negroes generally eat them boiled, and beaten into a mash. The white people have them ground into flour, and make bread and puddings of them. They can be preserved for several seasons, without losing any of their primitive goodness.

Of all the substitutes for bread in Europe, the potato is the most extensively useful. This plant is a native of Peru, and has been in Europe above two hundred years. Like most other important discoveries, it made but slow progress, and is still far from being so generally cultivated as it deserves to be. It is indeed known in most parts of Europe, but its culture is best understood in Ireland, and the northern parts of England. At Harwich, however, the preference is given to the Dutch potatoes, brought over by the packets between that place and Helvoet-Sluys. There is a light sandy soil in Holland very favourable to the culture of that inestimable root.

As this plant thrives in every soil, and seldom suffers from an inclemency of seasons, we must blame ourselves if we suffer a famine to exist. Indeed no such thing ever can be, where due attention is paid to the culture of potatoes. A far greater quantity of farinaceous food can be raised on an acre of ground planted with potatoes, than sown with any kind of grain. It is not uncommon to have a return of forty for one. They are not so hearty a food as corn, but no man will ever perish for hunger who can have potatoes.

Potatoes abound with an insipid juice, which induces some to think that they are not very nutritious. Facts, however, are against this opinion. Some of the stoutest men, we know, are brought up on milk and potatoes. Dr. Pearson, who has bestowed some pains in analyzing this root, says, that potatoes and water alone, with common salt, can nourish men completely. They differ in colour and consistence, but not materially with regard to their nutritive qualities.

Some think the firm kind are the most nutritious; but the Irish, who must be good judges, give the preference to the mealy. The difference, however, depends much on the mode of cooking them.

More than half the substance of potatoes consists of water, and experience shows, that the mode of cooking, which most diminishes the moisture, is to be preferred. In London, they are drenched in water, and washed before they are brought to market, which accounts in a great measure for the bad quality of the London potatoes.

They are dressed in a variety of ways, but simple boiling or roasting seems to be all the cooking they require, to render them a proper substitute for bread. Some are fond of making bread of them. This, in my opinion, is marring both. Why manufacture any thing into bread, which requires only the aid of fire to make it such? Nobody thinks of making dough of the bread-fruit; but

the potatoe might with as great propriety be called the bread-root, as it is made into bread by the same process.

Stewed mutton and potatoes make not only a nourishing, but a very palatable dish. The excess of fat of the mutton, which, when otherwise cooked, sustains great loss, is thus preserved, by being absorbed by the potatoes. It is, however, to be observed, that when potatoes are used in broths or stews, they ought previously to be boiled, and the water thrown away, as it contains something deleterious. Simple boiling or roasting is sufficient to prepare potatoes to supply the place of bread, but when they are intended to serve as a meal, they require something of a softening nature, as milk, butter, or broth. What a treasure is a milch-cow and a potatoe-garden to a poor man with a large family, who lives in the country! Yet, with a little attention from landlords and farmers, almost every man might be so accommodated. What a source of real wealth and population! Men would multiply, and poverty, unless among the profligate, be unknown. Horses are sometimes fed with potatoes, and become very fond of them. With the addition of a small quantity of hay, they are found to be sufficiently nourishing.

I would beg leave to recommend, both to landlords and farmers, a careful perusal of Earl Winchelsea's excellent letter to Sir John Sinclair, on the advantages of cottagers renting lands. This humane nobleman takes up the matter in a truly patriotic light, and shows that farmers, instead of lessening the number of poor, do every thing they can to multiply them; and I am sorry to say, that so far as my observation goes, it agrees entirely with his lordship's.

Another letter relating to this subject has lately fallen into my hands, a copy of which I shall take the liberty to insert, as it contains in a few paragraphs the best practical illustration of the truths I have long been endeavouring to enforce. It was written by Sir John Methuen Poore to Sir William Pulteney; and is dated "Rushall, 4th April, 1801:—

"Sir,

"I can prove, not by theory but practice, the benefit of planting potatoes on fallows. In the parish where I reside, the whole of which, except five acres, is my property, there are thirty cottages, containing one hundred and thirty-one poor people. I have, for five or six years past, allotted, free from rent, four acres of land, intended to be sown with wheat, the following autumn, for the cottagers to plant with potatoes, by which means each raises from ten to fifteen sacks, equal to two hundred and forty pounds per sack, yearly, in proportion to the number of their children: each has not only sufficient for his family, but is enabled also to fat a pig. They declare, were I to give among them a hundred pounds, it would not be of so much benefit to them; and it is not one shilling out of my pocket, for I have as good, if not a better crop of wheat from this land, as I have from the other part of the field.

"The method I take is this: the latter end of November I plough the land; the frost during the winter mellows it: the beginning of March following, I plough it again, and harrow it; at both which times I have little to do with my horses: I then divide

it into lots; a man with a large family has a larger lot than a single person, or one who has only two or three children, allowing about five perches (of 16 1-2 feet square) to each in a family: they then plant it, and put over their potatoes what manure they have collected the year preceding (for every cottager has more manure than necessary for this from their fires, and a variety of other things,) and during the summer, after their day's labour is done, they and their wives hoe them; and as every man works more cheerfully for himself than for another, they do not suffer a weed to grow. In October they dig them up: and it is the most pleasant thing imaginable to see the men, their wives and children, gathering the produce of their little farms, which is to serve them the ensuing winter.—Were this plan generally adopted, the labourers would consume but little corn: which would supply the manufacturing towns, and we should have no occasion to import. As four acres are sufficient for thirty families, it would take but a small quantity of land from every farm in the kingdom. The way practised here is to plant the potatoes in furrows, eighteen inches apart, and a foot apart in the rows. The land about me is of different qualities; on the hills rather light; in the vale, near the parish, inclining to clay; but all fit for turnips: the potatoes are planted in the low land, being nearer home. The poor at present will not live entirely without bread, as many do in Ireland, though potatoes daily get into use more and more; and I am persuaded, were my plan generally adopted, in two or three years the labourers in the country would consume but little or no corn. Thirty years ago the poor in this part of the country would not eat potatoes, if they could get other roots or vegetables."

It is unnecessary to make any comments on this letter, every line of which is dictated by good sense and humanity, as well as by liberal and enlightened policy. I shall only add an earnest wish, that the example of the truly patriotic and benevolent writer may be followed by every man of landed property, and by every considerable farmer in the kingdom!

Some think that the potatoe, unless it be made into bread, will not keep. An accident taught me the contrary. Many years ago a friend of mine sent me a potatoe, after it had been roasted in an oven, on account of its singular figure. I laid it on a shelf among some other things of the like kind, and was surprised, on removing them many years after, to find the potatoe quite fresh, though as dry as a bone. On grating it down, it was perfectly sweet; and as fit for making soup as the day it was roasted. I apprehend that nothing made into bread would have kept so long.

Posterity will hardly believe that a scarcity of bread could be felt in Britain, at a time when it was known that a sufficient quantity of farinaceous food could be raised in one county for the inhabitants of the whole island. Let proper encouragement be given to the culture of potatoes, and set famine at defiance.

Many other domestic roots, sprouts, &c. are very wholesome, and may occasionally supply the place of bread. Of these Mr. Bryant of Norwich reckons above forty; but we shall only take notice, by way of specimen, of the most useful and productive. It is worthy of remark, that no nation can be very populous, which does not draw a great part of its food from under-ground.

The Jerusalem artichoke is a native of Brazil, but having been long cultivated in this country, it is too well known to need any description. From its taste, which is like that of artichoke-bottoms, it would seem to be nutritious, and is far from being unpleasant to the palate. Some reckon it windy, but this may be corrected in the cooking, by warm spices; and as the plant is very productive, we would recommend it to be used in the same manner as potatoes, and the other farinaceous roots.

Of the esculent roots in this country, the parsnip is reckoned the most nourishing. It is likewise of easy digestion, and is agreeable to most palates. Some, indeed, dislike it on account of its sweetness; but that is a proof of its nutritive quality, sugar being the most nourishing thing in nature. We are told that, in the north of Ireland, the poor people make beer from this root.

There is not any plant that affords a more striking proof of the benefits of culture than the turnip. In its wild state it is good for little or nothing; but when properly cultivated, it not only affords wholesome nourishment for man, but furnishes the principal winter-food for cattle. There is a species of this plant which grows in North Britain, called the yellow turnip, which is sweet, and of a superior quality to those produced in the south, particularly about London, which are bitter and stringy. The yellow turnip is the most nourishing, and also the most hardy in sustaining the winter. It is eaten with milk to cure the consumption and scurvy. Margraaf says, he could extract no sugar from the turnip, which affords ground to conclude, that it is not so nutritive as certain other roots. Not only the root of the turnip, but the tops, when young, make very pleasant greens. The sprouts, if gathered when very tender, make an excellent salad.

The carrot, like the turnip, is good for little in its natural state, being small, tough, and stringy. Manured, it grows large, succulent, and of a pleasant flavour. It ought, however, to be eaten young, otherwise it lies on the stomach, and is hard of digestion. It is an ingredient in several soups, and, being solid, may in some measure supply the place of bread.

Salsafy, skirrets, and the several kinds of beets, are all pleasant and nourishing. They are likewise of easy digestion, and may be dressed in a variety of ways. Margraaf has, by experiments, discovered, that both skirrets and beets contain a considerable quantity of sugar. Though the extracting a saccharine salt from these plants may be no object while we possess the West India islands, yet it serves to show that they possess a quantity of nutritious matter, sufficient to give them a rank among the articles calculated to supply the place of bread.

The onion, we are told, was a great favourite in Egypt four thousand years ago, and Dr. Hasselquist says, it is not to be wondered at, for whoever has tasted the onions of Egypt must allow that none can be better in any part of the globe. There, he says, they are sweet, though in many countries they are strong and nauseous. There they are soft, whereas in northern countries, they are hard, and their coats so compact, that they are difficult to digest. This very quality may, however, recommend them in countries where food is scarce. The Doctor observes, that the

Turks eat them roasted with their meat as we do bread, and are so fond of them that they wish to be indulged with this dish in Paradise.

From the Doctor's account one would be induced to believe that the onion used in Egypt was of a different species from ours; but I am rather inclined to think it may depend on the mode of culture, as well as on the warmth of the climate and the difference of soil, as we find in the southern parts of Europe they are milder than in the more northerly. In Spain they are very mild, and a root weighing two pounds will grow from a single seed.

Onions are dressed in a variety of ways, but, in regard of wholesomeness, there is no method better than simple boiling. By this method of cooking they are rendered mild, of easy digestion, and go off without leaving any disagreeable heat on the stomach or bowels. Many shun them on account of the strong disagreeable smell they communicate to the breath. Mr. Bryant says, this may be remedied, by eating a few raw parsley leaves immediately after, which will effectually overcome the scent of the onions, and likewise cause them to sit more easy on the stomach.

The leek is generally reckoned among pot-herbs; but as the root is the part chiefly used, the consideration of it comes under the present head of discussion. Indeed, it is properly a root as the onion, which grows chiefly above ground. The leek, as well as the onion, is said to be a constant dish at the table of the Egyptians, who chop them small, and eat them with their meat.

The leek is used as a pot-herb in most parts of Britain, especially in Wales, where the natives are said to be fond of it. In Scotland a full-grown fowl and small piece of salt beef, stewed with a large quantity of leeks, is a very favourite dish. In my opinion the leek is not so generally used any where as it deserves to be. There is no ingredient that goes into soup that is more wholesome, or that gives it a better flavour, than leeks. They are in many respects medicinal, and, to my taste, as an ingredient in soups, they are greatly superior to the onion or any other pot-herb whatever.

It is a fact worthy of observation, that the boiling of vegetable substances thoroughly, a thing seldom done in England, extricates a considerable quantity of air, and makes them less liable to produce flatulency.

I could mention a great many more esculent plants which might occasionally supply the place of bread, but the above specimen is sufficient to show how liberal nature is in supplying man with food, provided he will take the trouble of cultivating and cooking it. Mr. Bryant, in his history of esculent plants, enumerates above four hundred and fifty, each of which affords a wholesome nourishment, and may occasionally be used in place of bread.

BROTHS AND SOUPS.

These may likewise be considered as substitutes for bread. If properly made, they will serve both for bread and drink. Though broth is a dish of the greatest antiquity, and may be considered as extremely delicious, yet it is not a favourite in this country. Here

the people are fond of what they call solids; yet those very solids, they make into broth, by swallowing as much drink after them as they can get. The only difference is, the foreigner makes his broth in a pot, and the Englishman makes his in the stomach.

A very sensible anonymous writer observes, that in England a pound of meat makes simply a pound of food; whereas in any other country in Europe, that quantity of animal food, when stewed down with vegetables and Scotch barley, will produce an ample meal for half a dozen people. Hence he justly infers that, among the variety of schemes which may have been devised by the humane for relieving the distresses of the poor, a better and more extensive charity cannot be devised than that of instructing them in a new mode of cookery.

The same author adds, that the result of his experiments on this subject had exceeded his most sanguine expectations, and that each day gave him fresh proofs of the excellency of his plan for teaching the poor and needy to find themselves in a wholesome and palatable diet, at the cheapest rate, in which little or no bread was required. He concludes by asserting, that there is scarcely a place in this kingdom, where twenty persons may not have a wholesome, hearty, palatable meal, for three shillings.

This anonymous letter is followed by one from Colonel Poynter, two from Dr. Johnson, of the royal hospital at Haslar, addressed to Admiral Waldegrave, and one from the Admiral himself, written for insertion in a public paper. They contain a variety of receipts for making cheap, wholesome, and nourishing dishes for the poor. These dishes consist chiefly of broths, soups, and stews, or what they call pottage, and are calculated to make a hearty and plentiful meal without bread or drink.

I am inclined to pay the more attention to these letters, as they seem all to have been written by gentlemen of observation. The pamphlet is sold by Longman and Debrett, for a charitable purpose, at the small price of three-pence.

The writer who has paid most attention to the improvement of cookery, for the benefit of the poor, is Count Rumford. In his economical and philosophical essays, he has given such a variety of forms for making wholesome, cheap, and nourishing soups, stews, and other dishes for common use, that little more seems necessary to be said on the subject. I shall only observe, that the mode of living on broths, soups, hasty-pudding, and such like, so warmly and justly recommended by the Count, has been practised in the northern parts of this kingdom from time immemorial. There the food of the common people is hasty-pudding, with milk, for breakfast and supper, and broth, with vegetables and meat, for dinner. The poorer sort often make broth without meat; but they all use vegetables in great abundance, and sometimes they supply the place of meat with butter. As the hasty-pudding and milk make a complete meal, no bread is necessary either at supper or breakfast; nor is much required at dinner, as the broth is made thick with barley, cabbage, and a variety of other vegetables or pot-herbs. Cabbage is a favourite ingredient in a Scotchman's broth. It is seldom made without this article, which is not eaten so early as in England. It is there suffered to grow to maturity,

and, when that is the case, there is no plant more productive. This the Germans know well, and make it into *saur kraut*, one of the best antidotes against the scurvy with which we are acquainted.

This kind of diet not only saves bread but drink. The labourer who lives on hasty-pudding and soups, seldom has occasion for drink; while he who is burnt up with dry bread and cheese, or salt meat boiled, has a continual thirst, and spends the greater part of his earnings in liquor. This, by acting as a powerful stimulus, may make him do more work for some time, but it generally cuts him off in the middle of his days. The English labourer, who works hard and drinks hard, seldom lives long, and is an old man when he should be in his prime.

The roasting of meat is a wasteful mode of cookery, which ought to be avoided by the poorer sort of people, as much of the substance, and the most nutritive parts, are lost by scorching and what flies off by evaporation.

I know it will be said, that I recommend slops in place of solid food. They are such slops, however, as the greatest heroes of antiquity lived upon; and though I have visited most parts of the island, I know of no better men than those who live in the manner described above, nor are the people any where more healthy, or longer lived.

Broth is not only a dish of great antiquity, but one that can be made in a great variety of ways. It receives into its composition animal and vegetable substances of every kind that are used in diet, and it may be seasoned so as to suit every palate. Indeed, people early accustomed to eat broths properly made, are generally fond of them for their whole lives.

It would be difficult to assign a reason why the inhabitants of South Britain should dislike a dish so much relished by other nations. Custom, no doubt, settles all these things; but how customs arise, is not so clear a matter. If an alteration in diet is to be introduced with effect, it must begin with children. Whatever men are accustomed to eat when young, they generally prefer for the rest of their lives. Were the children in South Britain taught to eat hasty-pudding, with milk, for breakfast and supper, and broth, with vegetables and meat boiled in it, for dinner, they would relish these dishes as long as they lived, would find little occasion for bread, and still less for drink; and would thrive better than on their present food.

What parents love themselves, they generally give to their children, without any regard to its being proper for them or not. I have seen a father, who was fond of strong beer, make his son, an infant, guzzle it at every meal; and the mother, who delights in tea, does not fail to give it to her daughter whenever she takes it herself. By this conduct the son becomes a tippler, and the daughter sips tea in place of solid food, until she is eaten up with vapours and other nervous disorders.

Count Rumford says, brown soup is the common breakfast of the Bavarian peasants, to which they occasionally add bread. This he avers is infinitely preferable in all respects to that pernicious wash, tea, with which the lower classes of the inhabitants of

this island, drench their stomachs, and ruin their constitutions. He adds, that a simple infusion of this drug, drank boiling hot, as the poor generally drink it, is certainly a poison, which, though it be sometimes slow in its operation, never fails to produce fatal effects, even in the strongest constitution, where the free use of it is continued for a considerable length of time.

The German on his *polenta*, the American on his *mush*, and the North Britain on his *hasty-pudding*, can make a hearty breakfast for a tenth part of what a tea-breakfast would cost, while it is infinitely more wholesome. It has likewise the advantage that no bread is necessary.

I have been often told, when recommending soups to the poor, that they had not time to make them, and that they could not afford fuel on account of its price, as it is dear in great towns. They can, however, find fuel twice a-day to boil a tea-kettle, and time to make the tea, which is a more tedious operation, by far, than making a mess of hasty-pudding. For a great part of the year even the poorest person must have a little fire; and it would require no more to make a comfortable mess of soup, which is always best when made with a slow fire.

The mode of living that I would recommend to the lower orders of the people, with a view to save expense and improve their health, is to substitute occasionally other farinaceous substances in the place of bread, as potatoes, &c. to give up in a great measure the use of roasted, baked, and broiled meats, and to supply their place with broths, soups, stews, and such like, made with a little meat and plenty of vegetables; to give it to children, and to grown people who will eat it for breakfast, milk-porridge, or hasty-pudding with milk, small-beer, or molasses. This will be found a more wholesome breakfast than tea, while it is much cheaper and requires no bread.*

REMARKS.

Although the place of bread may be occasionally supplied by farinaceous roots and other vegetables, yet we would by no means wish to discourage the culture of grain. The culture of grain is the culture of men. While the husbandman is raising

* The celebrated Dr. Huffland, in his Art of prolonging Life, says the moderate use of soups is certainly not hurtful; and it is singular that people should imagine it tends too much to relax the stomach. Does not all our drink, even though cold, become in a few minutes a kind of warm soup in the stomach: and does not the stomach retain the same temperature during the whole day? Be careful only not to use it hot, in too great quantity at one time, or two watery. It is attended even with great advantages. It supplies the place of drink, particularly to men of letters, women, and all those who do not drink, or drink very little except at table, and who, when they give over soup, receive into their blood too little moisture. And it is here to be remarked, that fluids used in the form of soups unite much better and sooner with our juices than when drunk cold and raw. On this account soup is a great preventative of dryness and rigidity in the body, and, therefore, the best nourishment for old people, and those who are of an arid temperament. It even supplies the place of a medicine. After catching cold, in nervous head-aches, colics, and different kinds of cramp in the stomach, warm soup is of excellent service. It may serve as a proof of the utility, or at least harmlessness of soup, when I remark that our forefathers, who certainly had more strength than we have, used soup; and that it is used by rustics, who are still stronger than those in refined life; and that all the old people with whom I ever was acquainted were great friends to it.

food for his fellow-creatures, he is laying the foundation of health and longevity to himself and his offspring. Innumerable benefits are connected with the culture of grain. While the artificer is sitting in some awkward posture, breathing confined, and, perhaps, contaminated air, the cultivator of the soil rises with the sun, eats his wholesome meal of milk and farinaceous food, hies him to the field, where he spends the day in useful labour, inhales the fresh breezes, and at eve returns home with a keen appetite, to enjoy his simple repast and sound repose.

It has been said, as artificers can earn more money than those who cultivate the ground, that arts ought to be encouraged, and grain, if necessary, imported. No manufacture is equal to the manufacture of grain. It supplies food for man and beast, while the surplus, by being exported, enriches the nation. Nor is it subject to the uncertainty of other manufactures. They often depend on fashion and caprice, but the necessaries of life will always find their value somewhere. Though I am convinced that some regulations are wanting for the encouragement of agriculture, I do not consider it as my province to dictate to the wisdom of the legislature. They know their duty, and I have reason to believe that they are inclined to pay it all due attention.

I will venture, however, to assert, that if proper encouragement were given to agriculture, Britain would at all times not only have a sufficiency of grain for her own consumption, but a surplus for exportation. This would contribute more to her real wealth, the happiness of her people, and the stability of her government, than either the increase of her trade, the flourishing of her manufactures, or the extension of her territory.

It is a matter of real regret and wonder that Britain, at a time when agriculture is cultivated as a science, should not be able to raise grain for the supply of her own inhabitants, but become every year more dependent on foreign states for even the necessaries of life. Until an adequate remedy can be found for this growing evil, the free use of the various substitutes for bread, cannot fail to alleviate the calamities of the poor, and to reduce the price of labour.

The great consumption of animal food, and the immense number of horses kept in this country, are to be reckoned among the causes of the scarcity of grain. Mr. Mackie computes the number of horses in this country to be about two millions, and that every horse, on an average, consumes the produce of three fertile acres, consequently the produce of six millions of fertile acres is annually consumed by horses. These would produce a quantity of grain more than sufficient to maintain half the inhabitants of Great Britain. Two hundred and sixty thousand of these animals are kept for pleasure. I shall be told that they contribute to health. That I deny. Did our ladies of fashion and fine gentlemen make use of their limbs, instead of being dragged about in carriages, they would both benefit themselves and the public. I shall conclude these remarks with the advice of the humane and benevolent Thomson :—

"Ye gen'rous Britons! venerate the plough,
And o'er your hills and long withdrawing vales
Let Autumn spread her treasures to the sun.
Luxuriant and unbounded. As the sea
Far through his azure turbulent domain
Your empire owns, and from a thousand shores
Wafts all the pomp of life into your ports;
So with superior boon may your rich soil
Exub'rant Nature's better blessings pour
O'er ev'ry land, the naked nations clothe,
And be the exhaustless gran'ry of a world."

FOOD CONSIDERED IN A MEDICAL POINT OF VIEW.

Under this point of consideration, the most remarkable distinction of foods is into those which are already assimilated with the animal nature, and into those that are not. Animal substances, generally, are of the first kind, which, although not entirely similar, are nearly so to our nature. Of the second kind are vegetables, which, with much more difficulty are assimilated. But as the nourishment of all animals can be originally traced to the vegetable kingdom, it becomes evident that the principle of all nutrition exists in vegetables.

In the first edition of his Materia Medica, Dr. Cullen observes, that though there is, perhaps, no vegetable which does not afford nourishment to some species of animals or other, yet, with regard to mankind, a very considerable distinction is to be made. Those vegetables that are of a mild, bland, agreeable taste, are proper nourishment, while those of an acrid, bitter, and nauseous nature, are improper. We use, indeed, several acrid substances as food, but as spices or condiments, which answer the purpose of medicines, rather than any thing else; although, not unfrequently, acrid and bitter acrid vegetables are admitted as food. For instance, celery and endive are used in common food, though both are substances of considerable acrimony; but it must be observed, that when we use them, they are previously blanched, which almost totally destroys their acrimony. Or, if we employ other acrid substances, we generally, in a great measure, deprive them of their acrimony by boiling. In different countries the same plants grow with different degrees of acrimony. Garlic, for example, seldom, in this country, enters our food; but in southern countries, where this plant grows more mild, it is frequently used. The plant which furnishes casada, which, in its recent state, is of a very poisonous and acrimonious nature, affords an instance of the necessity of preparing acrid substances, even in hot countries; and there are other plants, such as the wake-robin, which, in their natural state, are so acrimonious, that they cannot be swallowed with safety; yet, when deprived of that acrimony by boiling, afford good nourishment.

DIFFERENCES BETWEEN VEGETABLE AND ANIMAL FOOD.

Vegetable differs from animal food in several respects. 1st, It has a greater tendency to acidity; whilst animal food of all kinds inclines more to alkalescency and putrefaction. 2d, With regard to their difference of solution in the stomach, heaviness, as

it is called, is seldom felt from vegetables, except from tough farinaceous paste, or the most viscid substances; while heaviness from animal food is more frequently noticed, especially when taken in any great quantity. 3d, With regard to mixture, there is no instance of difficult mixture in vegetables, except in vegetable oils; while animal food, especially the fatter meats, both from viscidity and oiliness, are in this respect refractory. 4th, When the putrescency of animal food has proceeded so far, it produces an active stimulus, causing diarrhœa, and dysentery. These effects are, however, but of rare occurrence; whereas from vegetable food and its acid, which, united with bile, proves a pretty strong stimulus, they more frequently occur; fortunately, however, they are of less consequence, if the degree of refrigeration be not very great. 5th, Wherever neither putrefaction nor acidity has gone to any great length, animal food keeps the belly more regular, &c. 6th, Vegetable food gives a greater proportion of succulent matter, and, when exsiccated by the stomach and intestines, is more apt to stagnate and produce slow belly and costiveness, than stimulating animal food, which, before it reaches the large intestines, where stoppage is made, it has obtained a putrefactive tendency, and gives a proper stimulus; thus, those who are costive from the use of vegetables, when they return to animal food, are considerably ameliorated in their natural bodily health. See "NATURAL AND MEDICAL DIETETICON, *or Practical Rules for eating and drinking, &c.*" *By J. S. Forsyth, &c.*, p. 63—67.

Independent of the preceding observations, it is generally pretty well known, that animal food is far more nutritive than vegetable, although they both produce a blood of the same kind but different in quality. The former affords a more dense stimulating elastic blood than the latter, which stretches and causes a greater degree of resistance in the solids, as well as excites them to stronger action.

CHAP. II.

REMARKS ON SEDENTARY, STUDIOUS, AND LABORIOUS OCCUPATIONS, &c.

THAT men are exposed to particular diseases from the occupations which they follow, is a fact well known; but to remedy this evil is a matter of some difficulty. Most people are under the necessity of following those employments to which they have been bred, whether they be favourable to health or not.

Chemists, founders, forgers, glass-blowers, and several other artists, are hurt by the deleterious air they are obliged to breathe; which is not only loaded with the noxious exhalations arising from metals and minerals, but is so charged with phlogiston* as to be

* The inflammable principle.—A name given by Stahl to a principle which he imagined was pure fire, or the matter of fire fixed in combustible bodies, in order to distinguish it from fire in action, or in a state of liberty.

rendered unfit for expanding the lungs sufficiently, and answering the other important purposes of respiration. Hence proceed asthmas, coughs, and pulmonary complaints, so incident to persons who follow these employments.

To prevent such consequences as far as possible, the places where these occupations are carried on ought to be constructed in such a manner as to discharge the smoke and other exhalations, and admit a free current of fresh air. Such artists ought never to continue long at work; and when they give over, they should suffer themselves to cool gradually, and put on their clothes before they go into the open air. They ought never to drink large quantities of cold, weak, or watery liquors while their bodies are hot, nor to indulge in raw fruits, salads, or any thing that is cold on the stomach.*

Miners, and all who work under-ground, are likewise hurt by unwholesome air. The air, by its stagnation in deep mines, not only loses its proper elasticity, and other qualities necessary for respiration, but is often charged with such noxious exhalations as to become a most deadly poison.

The two kinds of air which prove most destructive to miners, are what they call the *fire-damp*, and the *choak-damp*.† In both cases the air becomes a poison by its being loaded with noxious gas.‡ The danger from the former may be obviated by making it explode before it accumulates in too great quantities; and the latter may be generally carried off by promoting a free circulation of air in the mine.

Miners are not only hurt by unwholesome air, but likewise by the particles of metal which adhere to their skin, clothes, &c. These are absorbed, or taken up into the body, and occasion palsies, vertigoes, and other nervous affections, which often prove fatal. Lead, and several other metals, are likewise very pernicious to the health.

Miners ought never to go to work fasting, nor to continue too long at work. Their food ought to be nourishing, and their liquor generous: nothing more certainly hurts them than living too low. They should by all means avoid costiveness. This may either be done by chewing a little rhubarb, or taking a sufficient quantity of salad oil. Oil not only opens the body, but sheathes and defends the intestines from the ill effects of the metals. All who work in mines or metals ought to wash carefully, and to change their clothes as soon as they give over working. Nothing would

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* When persons heated with labour, have drunk cold liquor, they ought to continue at work for some time after.

† These are the names by which miners distinguish damps. The choak-damp extinguishes their candles, hovers about the bottom of the mine, and, for the most part consists of carbonic acid gas. Fire-damp or hydrogen gas, occupies the superior spaces of the mine, and does great mischief by exploding whenever it comes in contact with their lights. To subdue this gigantic power, which caused such mutilation and destruction among the miners, by the tremendous explosions that so frequently occurred, was the task which Sir Humphrey Davy assigned to himself, and which, had his genius been baffled, the kingdom could scarcely have hoped to have seen it achieved by another. This, however, he was enabled to overcome: and the Safety Lamp, which goes by his name, will remain to after-ages a testimony of his enlightened genius, to which mankind are so infinitely indebted.

‡ See *Aerial Poison*, under POISONS.

tend more to preserve the health of such people than a strict, and almost religious, regard to cleanliness.

Plumbers, painters, gilders, smelters, makers of white lead, and many others who work in metals, are liable to the same diseases as miners; and ought to observe the same directions for avoiding them.

Tallow-chandlers, boilers of oil, and all who work in putrid animal substances, are likewise liable to suffer from the unwholesome smells or effluvia of these substances. They ought to pay the same regard to cleanliness as miners; and when they are affected with nausea, sickness, or indigestion, we would advise them to take an emetic or a gentle purge. Such substances ought always to be manufactured as soon as possible. When long kept, they not only become unwholesome to those who manufacture them, but likewise to people who live in the neighbourhood.

It would greatly exceed the limits of this part of our subject to specify the diseases peculiar to persons of every occupation; we shall, therefore, consider mankind under the general classes of *Laborious*, *Sedentary*, and *Studious*.

ON VARIOUS EMPLOYMENTS, &c.

Though the working classes are in general the most healthy of all mankind, yet the nature of their occupations, and the places where they are carried on, expose them more particularly to some diseases. Husbandmen, for example, are exposed to all the vicissitudes of the weather, which, in this country, are often very great and sudden, and occasion colds, coughs, quinsies, rheumatisms, fevers and other acute disorders. They are likewise forced to work hard, and often to carry burdens above their strength, which, by overstraining the vessels, occasion asthmas, ruptures, pleurisies, &c.

Those who labour without doors are often afflicted with intermitting fevers or agues, occasioned by the frequent vicissitudes of heat and cold, poor living, bad water, sitting or lying on the damp ground, evening dews, night air, &c. to which they are frequently exposed.

Such as bear heavy burdens, as porters, labourers, &c. are obliged to draw in the air with much greater force, and also to keep their lungs distended, with more violence than is necessary for common respiration: by this means the tender vessels of the lungs are overstretched, and often burst, insomuch that a spitting of blood or fever ensues, &c.

Carrying heavy burdens is generally the effect of mere laziness, which prompts people to do at once what should be done at twice. Sometimes it proceeds from vanity or emulation. Hence it is, that the strongest men are most commonly hurt by heavy burdens, hard labour, or feats of activity. It is rare to find one who boasts of his strength, without a rupture, a spitting of blood, or some other disease, which he reaps as the fruit of his folly.

There are, indeed, some employments which necessarily require a great exertion of strength; as porters, blacksmitns, carpenters, &c. None ought to fellow these but men of strong body; and

they should never exert their strength to the utmost, nor work too long. When the muscles are violently strained, frequent rest is necessary, in order that they may recover their tone; without this, the strength and constitution will soon be worn out, and a premature old age be induced.

St. Anthony's fire (Eresipelas,) is a disease very incident to labouring people. It is occasioned by whatever gives a sudden check to the perspiration, as drinking cold water when the body is warm, wet feet, keeping on wet clothes, sitting or lying on the damp ground, &c. It is impossible for those who labour without doors always to guard against these inconveniences; but it is known from experience, that their ill consequences might often be prevented by proper care. See *Eresipelas*, &c.

The iliac passion, the colic, and other complaints of the bowels, are often occasioned by the same causes as the eresipelas; but they may likewise proceed from flatulent and indigestible food. Labourers generally eat unfermented bread made of peas, beans, rye, and other windy ingredients. They also devour great quantities of unripe fruits, baked, stewed, or raw, with various kinds of roots and herbs, upon which they drink sour milk stale small beer, or the like. Such a mixture cannot fail to fill the bowels with wind, and occasion diseases of those parts. See *Iliac Passion.*

Inflammations, whitloes, and other diseases of the extremities, are likewise common among those who labour without doors. These diseases are often attributed to venom, or some kind of poison: but they generally proceed either from sudden heat after cold, or the contrary. When labourers, milk-maids, &c. come from the field, cold or wet, they run to the fire, and often plunge their hands in warm water; by which means the blood, and other humours in those parts are suddenly expanded, and the vessels not yielding so quickly, a strangulation happens, and an inflammation or a mortification ensues.

When such persons come home cold, they ought to keep at a distance from the fire for some time, to wash their hands in cold water, and to rub them well with a dry cloth. It sometimes happens, that people are so benumbed with cold, as to be quite deprived of the use of their limbs. In this case the only remedy is to rub the parts affected with snow, or, where it cannot be had, with cold water. If they be held near the fire, or plunged into warm water, a mortification will generally ensue.

Labourers in the hot season are apt to lie down and sleep in the sun. This practice is so dangerous, that they often awake in a burning fever. These ardent fevers, which prove so fatal about the end of summer and beginning of autumn, are frequently occasioned by this means. When labourers leave off work, which they ought always to do during the heat of the day, they should go home, or at least get under some cover, where they may repose themselves in safety.

Many people follow their employments in the fields from morning till night, without eating any thing. This cannot fail to hurt their health. However homely their fare may be, they ought to have it at regular times; and the harder they work, the more frequently they should eat.

Many peasants are extremely careless with respect to what they eat or drink, and often, through mere indolence, use unwholesome food, when they might, for the same expense, have that which is wholesome. In some parts of Britain the peasants are too careless even to take the trouble of dressing their own victuals. Such people would live upon one meal a day in indolence, rather than labour, though it were to procure them the greatest affluence.

Fevers of a very bad kind are often occasioned among labourers by *poor living*. When the body is not sufficiently nourished, the humours become vitiated, and the solids weak, whence the most fatal consequences ensue. *Poor living* is likewise productive of many of those diseases of the skin so frequent among the lower class of people. It is remarkable that cattle, when pinched in their food, are generally affected with diseases of the skin, which seldom fail to disappear when they are put upon a good pasture. This shows how much a good state of the humours depends upon a sufficient quantity of proper nourishment.

Poverty not only occasions, but aggravates, many of the diseases of the laborious. Few of them have much foresight; and if they had, it is seldom in their power to save any thing. They are glad to make a shift to live from day to day; and when any disease overtakes them, they are miserable indeed. Here the godlike virtue of charity ought always to exert itself. To relieve the industrious poor in distress, is surely the most exalted act of religion and humanity. They alone, who are witnesses of those scenes of calamity, can form a notion of what numbers perish in diseases, for want of proper assistance, and even for want of the necessaries of life.

Labourers are often hurt by a foolish emulation which prompts them to vie with one another, till they overheat themselves to such a degree as to occasion a fever, or even to drop down dead.

SOLDIERS AND SAILORS, THE CONSEQUENCES OF THEIR EMPLOYMENT.

The calling of a *soldier*, in time of war, may be ranked among the laborious employments. Soldiers suffer many hardships from the inclemency of seasons, long marches, bad provisions, hunger, watching, unwholesome climates, bad water, &c. These occasion fevers, fluxes, rheumatisms, and other fatal diseases which generally do greater execution than the sword, especially when campaigns are continued too late in the season. A few weeks of cold rainy weather will often prove more fatal than an engagement.

Those who have the command of armies should take care that their soldiers be well clothed and well fed. They ought also to finish their campaigns in due season, and to provide their men with dry and well-aired winter-quarters. These rules, taking care, at the same time, to keep the sick at a proper distance from those in health, would tend greatly to preserve the lives of the soldiery.

Sailors may also be numbered among the laborious. They undergo great hardships from change of climate, the violence of the weather, hard labour, bad provisions, &c. Sailors are of so great importance both to the trade and safety of this kingdom, that too

much pains can never be bestowed in pointing out the means of preserving their health and lives.

One great source of the diseases of sea-faring people is excess. When they get on shore, after having been long at sea, without regard to the climate, or their own constitutions, they plunge headlong into all manner of riot, and often persist till a fever puts an end to their lives. Thus intemperance, and not the climate, is often the cause why so many of our brave sailors die on foreign coasts. Such people ought not to live too low; but they will find moderation the best defence against fevers and many other maladies.

Sailors, when on duty, cannot avoid sometimes getting wet. When this happens, they should change their clothes as soon as they are relieved, and take every method to restore the perspiration. They should not, in this case, make too free with spirits or other strong liquors, but should rather drink them diluted with warm water, and go immediately to bed, where a sound sleep and a gentle sweat would set all to rights.

But the health of sailors suffers most from unwholesome food. The constant use of salted provisions inflames their humours, and occasions the scurvy, and other obstinate maladies. It is no easy matter to prevent this disease in long voyages; yet we cannot help thinking that much might be done towards effecting so desirable an end, were due pains bestowed for that purpose. For example, various roots, greens, and fruits, might be kept a long time at sea, as onions, potatoes, cabbages, lemons, oranges, tamarinds, apples, &c. When fruits cannot be kept, the juices of them, either fresh or fermented, may. With these all the drink, and even the food, of the ship's company ought to be acidulated in long voyages.

Stale bread and beer likewise contribute to vitiate the humours. Flour will keep a long time on board, of which fresh bread might frequently be made. Malt too might be kept, and infused with boiling water at any time. This liquor, when drank even in form of wort, is very wholesome, and is found to be an antidote against the scurvy. Small wines and cider might likewise be plentifully laid in; and should they turn sour, they would still be useful as vinegar. Vinegar is a great antidote against diseases, and should be used by all travellers, especially at sea. It may either be mixed with the water they drink, or taken in their food.

Such animals as can be kept alive, ought likewise to be carried on board, as hens, ducks, pigs, &c. Fresh broths made of portable soup, and puddings made of peas or other vegetables, ought to be used plentifully. Many other things will readily occur to people conversant in these matters, which would tend to preserve the health of that brave and useful set of men.*

We have reason to believe, if due attention were paid to the

* Our countryman, the celebrated Captain Cook, has shown how far, by proper care and attention, the diseases formerly so fatal to seamen may be prevented. In a voyage of three years and eighteen days, during which he was exposed to every climate, from the 52 deg. north to the 71 deg. of south latitude, of one hundred and eighteen men, composing the ship's company, he lost only one, who died of *phthisis pulmonalis*. The principal means he used were, to preserve a strict attention to cleanliness, to procure abundance of vegetables and fresh provisions, especially good water, and to allow his people sufficient time for rest.

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addition of several candles, which tend to waste the air, and render it less fit for respiration. Air that is breathed repeatedly, becomes unfit for expanding the lungs. This is one cause of the phthisical coughs, and other complaints of the breast, so frequent among sedentary artificers.

Even the perspiration from a great number of persons pent up together, renders the air unwholesome. The danger from this quarter will be greatly increased, if any of them happen to have bad lungs, or to be otherwise diseased. Those who sit near the person so affected, being forced to breathe the same air, can hardly fail to be infected. It would be a rare thing, however, to find a dozen of sedentary people all in good health. The danger of crowding them together must, therefore, be evident to every one.

INJURIOUS EFFECT OF LONG INCLINED POSTURE, &c.

MANY of those who follow sedentary employments are constantly in a bending posture, as shoemakers, tailors, cutlers, &c. Such a situation is extremely hurtful. A bending posture obstructs all the vital motions, and of course must destroy the health. Accordingly we find such artificers generally complaining of indigestions, flatulences, head-achs, pains of the breast, &c.

The aliment in sedentary people, instead of being pushed forwards by an erect posture, and the action of the muscles, is in a manner confined in the bowels. Hence indigestions, costiveness, wind, and other hypochondriacal affections, are the constant companions of the sedentary. Indeed none of the excretions can be duly performed where exercise is wanting; and when the matter which ought to be discharged in this way is retained too long in the body, it must have bad effects, as it is again taken up in the mass of humours.

A bending posture is likewise hurtful to the lungs. When this organ is compressed, the air cannot have free access into all its parts, so as to expand them properly. Hence tubercles, adhesions, &c. are formed, which often end in consumptions. Besides, the proper action of the lungs being absolutely necessary for making good blood, when that organ fails, the humours soon become universally depraved, and the whole constitution goes to wreck. Being of a soft texture, and in continual action, their functions are easily obstructed by pressure.

The sedentary are not only hurt by pressure on the bowels, but also on their inferior extremities, which obstructs the circulation in these parts, and renders them weak and feeble. Thus tailors, shoemakers, &c. frequently lose the use of their legs altogether: besides, the blood and humours are, by stagnation, vitiated, and the perspiration is obstructed; whence proceed the scab, ulcerous sores, foul blotches, and other cutaneous diseases, so common among sedentary artificers.

A bad figure of body is a very common consequence of close application to sedentary employments. The spine, for example, by being continually bent, puts on a crooked shape, and generally remains so ever after. But a bad figure of body has already been observed to be hurtful to health, as the vital functions are thereby impeded.

A sedentary life seldom fails to occasion an universal relaxation of the solids. This is the great source whence most of the diseases of sedentary people flow. Scrophula, (king's evil,) consumption, hysterics, and other nervous diseases, now so common, were very little known in this country before sedentary artificers became so numerous; and they are very little known still among such of our people as follow active employments without doors, though in large towns at least two thirds of the inhabitants are afflicted with them.

It is very difficult to remedy those evils, because many who have been accustomed to a sedentary life, like rickety children, lose all inclination for exercise: we shall, however, throw out a few hints with respect to the most likely means for preserving the health of this useful set of people, which some of them, we hope, will be wise enough to take.

It has been already observed, that sedentary artificers are often hurt by their bending posture. They ought, therefore, to stand or sit as erect as the nature of their employments will permit. They should likewise change their posture frequently, and should never sit too long at a time, but leave off work, and walk, ride, run, or do any thing that will promote the vital functions.

Sedentary artificers are generally allowed too little time for exercise; yet, short as it is, they seldom employ it properly. A journeyman tailor or weaver, for example, instead of walking abroad for exercise and fresh air, at his hours of leisure, chooses often to spend them in a public house, or in playing at some sedentary game, by which he generally loses both his time and his money.

The awkward postures in which many sedentary artificers work, seem rather to be the effect of custom than necessity. For example, a table might surely be contrived for ten or a dozen tailors to sit round, with liberty for their legs either to hang down, or rest upon a footboard, as they should choose. A place might likewise be cut out for each person in such a manner that he might sit as conveniently for working as in the present mode of sitting cross-legged.

All sedentary artificers ought to pay the most religious regard to cleanliness. Both their situation and occupations render this highly necessary. Nothing would contribute more to preserve their health, than a strict attention to it; and such of them as neglect it, not only run the hazard of losing health, but of becoming a nuisance to their neighbours.

Sedentary people ought to avoid food that is windy or hard of digestion, and *should pay the strictest regard to sobriety.* A person who works hard without doors will soon throw off a debauch; but one who sits, has by no means an equal chance. Hence it often happens that sedentary people are seized with fevers after hard drinking. When such persons feel their spirits low, instead of running to the tavern for relief, they should ride or walk in the fields. This would remove the complaint more effectually than strong liquor, and would never hurt the constitution.

ADVICE TO THE SEDENTARY, &c.

INSTEAD of multiplying rules for preserving the health of the sedentary, we shall recommend them to the following general plan, viz. That every person who follows a sedentary employment should cultivate a piece of ground with his own hands. This he might dig, plant, sow, and weed at leisure hours, so as to make it both an exercise and amusement, while it produced many of the necessaries of life. After working an hour in a garden, a man will return with more keenness to his employment within doors, than if he had been all the while idle.

Cultivating the ground is every way conducive to health. It not only gives exercise to every part of the body, but the very smell of the earth and fresh herbs revives and cheers the spirits, whilst the perpetual prospect of something coming to maturity delights and entertains the mind. We are so formed as to be always pleased with somewhat in perspective, however distant or however trivial; hence the happiness that most men feel in planting, sowing, building, &c. These seem to have been the chief employments of the more early ages; and, when kings and conquerors cultivated the ground, there is reason to believe that they knew as well wherein true happiness consisted as we do.

It may seem romantic to recommend gardening to manufacturers in great towns; but observation proves that the plan is very practicable. In the town of Sheffield, in Yorkshire, where the great iron manufacture is carried on, there is hardly a journeyman cutler who does not possess a piece of ground, which he cultivates as a garden. This practice has many salutary effects. It not only induces these people to take exercise without doors, but also to eat many greens, roots, &c., of their own growth, which they would never think of purchasing. There can be no reason why manufacturers in any other town in Great Britain should not follow the same plan. It is indeed to be regretted, that in such a place as London a plan of this kind is not practicable: yet, even there, sedentary artificers may find opportunities of taking air and exercise, if they choose to embrace them.

Mechanics are too much inclined to crowd into great towns. The situation may have some advantages; but it has likewise many disadvantages. All mechanics who live in the country have it in their power to cultivate a piece of ground; which, indeed, most of them do. This not only gives them exercise, but enables them to live more comfortably. So far at least as my observation extends, mechanics who live in the country are far more happy than those in great towns. They enjoy better health, live in greater affluence, and seldom fail to rear a healthy and numerous offspring.*

* WATCHMAKERS, in consequence of their sedentary habits, are liable to a peculiar species of disease, to which I have witnessed many of them fall victims. Its commencement is indicated by deficient appetite and eructations of wind from the stomach. There is also sallowness of complexion, and a muddy yellow appearance of the eyes. In the progress of the disease great quantities of black coagulated blood is discharged by stool, and occasionally by vomit. On dissection, the whole intestinal canal is found replete with blood either fluid or black and coagulated. The liver and the spleen appear soft, and as it were rotten.

In its more early stages, this disease admits of being checked by active purgatives, exercise, and country air.

In a word, exercise without doors, in one shape or another, is absolutely necessary to health. Those who neglect it, though they may for a while drag out life, can hardly be said to enjoy it. Weak and effeminate, they languish for a few years, and soon drop into an untimely grave.

THE SEDENTARY STUDIOUS.

INTENSE thinking is so destructive to health, that few instances can be produced of studious persons who are strong and healthy. Hard study always implies a sedentary life; and when intense thinking is joined to the want of exercise, the consequences must be bad. We have frequently known even a few months of close application to study, ruin an excellent constitution, by inducing a train of nervous complaints which could never be removed. Man is evidently not formed for continual thought more than for perpetual action, and would be as soon worn out by the one as by the other.

So great is the power of the mind over the body, that, by its influence, the whole vital motions may be accelerated or retarded to almost any degree. Thus, cheerfulness and mirth quicken the circulation, and promote all the secretions; whereas sadness and profound thought never fail to retard them. Hence it would appear, that even a degree of thoughtlessness is necessary to health. Indeed the perpetual thinker seldom enjoys either health or spirits; while the person who can hardly be said to think at all, generally enjoys both.

Perpetual thinkers, as they are called, seldom think long. In a few years they generally become quite stupid, and exhibit a melancholy proof how readily the greatest blessings may be abused. Thinking, like every thing else, when carried to extreme, becomes a vice; nor can any thing afford a greater proof of wisdom, than for a man frequently and seasonably to unbend his mind. This may generally be done by mixing in cheerful company, active diversions, or the like.

DISEASES TO WHICH STUDIOUS PEOPLE ARE MORE PECULIARLY LIABLE, &c.

Studious persons are very subject to the gout. This painful disease in a great measure proceeds from indigestion, and an obstructed perspiration. It is impossible that the man who sits from morning till night should either digest his food, or have any of the secretions in due quantity. But when that matter which should be thrown off by the skin, is retained in the body, and the humours are not duly prepared, diseases must ensue.

GRAVEL.—*The studious are likewise very liable to the stone and gravel.* Exercise greatly promotes both the secretion and discharge of urine; consequently a sedentary life must have a contrary effect. Any one may be satisfied of this by observing, that he passes much more urine by day than in the night, and also when he walks or rides, than when he sits. The discharge of urine not only prevents the gravel and stone, but many other diseases.

HEPATIC COMPLAINTS.—The circulation in the liver being slow, obstructions in that organ can hardly fail to be the consequence of inactivity. Hence sedentary people are frequently afflicted with schirrous livers. But the proper secretion and discharge of the bile is so necessary a part of the animal economy, that where these are not duly performed, the health must soon be impaired. Jaundice, indigestion, loss of appetite, and a wasting of the whole body, seldom fail to be the consequences of a vitiated state of the liver, or obstructions of the bile.

PULMONARY CONSUMPTION.—*Few diseases prove more fatal to the studious than consumptions of the lungs.** It has already been observed that this organ cannot be duly expanded in those who do not take proper exercise; and where that is the case, obstructions and adhesions will ensue. Not only want of exercise, but the posture in which studious persons generally sit, is very hurtful to the lungs. Those who read or write much are ready to contract a habit of bending forwards, and often press with their breast upon a table or bench. This posture cannot fail to hurt the lungs.

ADHESIONS, &c.—The functions of the heart may likewise by this means be injured. I remember to have seen a man opened, whose pericardium† adhered to the breast-bone in such a manner as to obstruct the motion of the heart, and occasion his death. The only probable cause that could be assigned for this singular symptom was, that the man, whose business was writing, used constantly to sit in a bending posture, with his breast upon the edge of a plain table.

WEAKNESS OF THE DIGESTIVE ORGANS, &c.—*No person can enjoy health who does not properly digest his food.* But intense thinking and inactivity never fail to weaken the powers of digestion. Hence the humours become crude and vitiated, the solids weak and relaxed, and the whole constitution goes to ruin.

HEAD-ACH, APOPLEXY, &c.—Long and intense thinking often occasions grievous head-achs, which bring on vertigoes, apoplexies, palsies, and other fatal disorders. The best way to prevent these is, never to study too long at one time, and to keep the body regular, either by proper food, or taking frequently a little of some opening medicine.

INFLAMMATION OF THE EYES.—*Those who read or write much are often afflicted with sore eyes.* Studying by candle-light is peculiarly hurtful to the sight. This ought to be practised as seldom as possible. When it is unavoidable, the eyes should be shaded, and the head should not be held too low. When the eyes are weak or painful, they should be bathed every night and morning in cold water, to which a little brandy may be added.

DROPSY.—It has already been observed, that the excretions are

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* Since the lungs are the first and chief instrument in sanguification, or the formation of blood, the animal that has that organ faulty, can never be duly nourished, nor have the vital juices which are derived from the blood in a good state; and this is true, understanding the lungs only as an instrument of digestion, and abstracting from an acrid and purulent matter, that mixeth with the blood in such as have their lungs ulcerated. See *Arbuthnot on Aliment, p.* 26.

† The membranous bag surrounding the heart. Its use is to secrete and contain the vapour of the pericardium, which lubricates the heart and prevents it from concreting or adhering to this membrane.

very defective in the studious. The dropsy is often occasioned by the retention of those humours which ought to be carried off in this way. Any person may observe that sitting makes his legs swell, and that this goes off by exercise; which clearly points out the method of prevention.

Fever.—*Fevers, especially of the nervous kind, are often the effect of intense study;* which in a manner unhinges the whole human frame, and not only hurts the vital motion, but disorders the mind itself. Hence delirium, melancholy, and even madness, are not unfrequently the effect of close application to study. In fine, there is no disease which can proceed either from a bad state of the humours, a defect of the usual secretions, or a debility of the nervous system, which may not be induced by intense thinking.

Hypochondriasm.—But the most afflicting of all the diseases which attack the studious is hypochondriasis.* This disease seldom fails to be the companion of deep thought. It may rather be called a complication of maladies than a single one. To what a wretched condition are the best of men often reduced by it! Their strength and appetite fail; a perpetual gloom hangs over their minds; they live in the constant dread of death, and are continually in search of relief from medicine, where, alas! it is not to be found. Those who labour under this disorder, though they are often made the subject of ridicule, justly claim our highest sympathy and compassion.

Hardly any thing can be more preposterous than for a person to make study his sole business. A mere student is seldom an useful member of society. He often neglects the most important duties of life, in order to pursue studies of a very trifling nature.

ADVICE TO STUDIOUS AND INTENSE THINKERS, &c.

Studious persons, and those who indulge long and frequently in intense thought, in order to relieve their minds, must not only discontinue to read and write, but engage in some employment or diversion that will so far occupy the thought as to make them forget the business of the closet. A solitary ride or walk are so far from relaxing the mind, that they rather encourage thought. Nothing can divert the mind when it gets into a train of serious thinking, but attention to subjects of a more trivial nature. These prove a kind of play to the mind, and consequently relieve it.

As studious people are necessarily much within doors, they should make choice of a large and well-aired place for study. This would not only prevent the bad effects which attend confined

* The state of mind peculiar to hypochondriacs is thus described by Cullen:—"A languor, listlessness, or want of resolution and activity, with respect to all undertakings; a disposition to seriousness, sadness, and timidity, as to all future events, and apprehension of the worst or most unhappy state of them; and, therefore, often upon slight grounds, an apprehension of great evil. Such persons are particularly attentive as to the state of their own health, to every the smallest change of feeling in their bodies; and from any unusual sensation, perhaps of the slightest kind, they apprehend great danger, and even death itself. In respect to these feelings and fears, there is commonly the most obstinate belief and persuasion." And it is only, he adds, when the state of mind just described is joined with indigestion, in either sex, somewhat advanced in years, of a melancholic temperament, and a firm and rigid habit, that the disease takes the names of hypochondriasm.

air, but would cheer the spirits, and have a most happy influence both on the body and mind. It is said of Euripides the tragedian, that he used to retire to a dark cave to compose his tragedies; and of Demosthenes the Grecian orator, that he chose a place for study where nothing could be either heard or seen. With all deference to such venerable names, we cannot help condemning their taste. A man may surely think to as good purpose in an elegant apartment as in a cave; and may have as happy conceptions where the all-cheering rays of the sun render the air wholesome, as in places where they never enter.

DESK OCCUPATIONS, &c.

Those who read or write much should be very attentive to their posture. They ought to sit and stand by turns, always keeping as nearly in an erect posture as possible. Those who dictate, may do it walking. It has an excellent effect frequently to read or speak aloud. This not only exercises the lungs, but almost the whole body. Hence studious people are greatly benefitted by delivering discourses in public. Public speakers, indeed, sometimes hurt themselves, by over-acting their part; but this is their own fault. The martyr to mere vociferation merits not our sympathy.

MORNING BEST ADAPTED FOR STUDY AND EXERCISE, &c.

The morning has, by all medical writers, been reckoned the best time for study. It is so. But it is also the most proper season for exercise, while the stomach is empty, and the spirits refreshed with sleep. Studious people should, therefore, sometimes spend the morning in walking, riding, or some manly diversions without doors. This would make them return to study with greater alacrity, and would be of more service than twice the time after their spirits are worn out with fatigue. It is not sufficient to take diversion only when we can think no longer. Every studious person should make it part of his business, and should let nothing interrupt his hours of recreation more than those of study.

EFFECTS OF MUSIC ON THE MIND, &c.

Music has a very happy effect in relieving the mind when fatigued with study. It would be well if every studious person were so far acquainted with that science as to amuse himself after severe thought by playing such airs as have a tendency to raise the spirits, and inspire cheerfulness and good humour.

It is a reproach to learning, that any of her votaries, to relieve the mind after study, should betake themselves to the use of strong liquors. This indeed is a remedy; but it is a desperate one, and always proves destructive. Would such persons, when their spirits are low, get on horseback, and ride ten or a dozen miles, they would find it a more effectual remedy than any cordial medicine in the apothecary's shop, or all the strong liquors in the world.

DR. BUCHAN'S PLAN, &c.

THE following is my plan, and I cannot recommend a better to others. When my mind is fatigued with study or other serious business, I mount my horse, and ride ten or twelve miles into the country, where I spend a day, and sometimes two, with a cheerful friend; after which I never fail to return to town with new vigour, and to pursue my studies or business with fresh alacrity.

It is much to be regretted, that learned men, while in health, pay so little regard to these things! There is not any thing more common than to see a miserable object over-run with nervous diseases, bathing, walking, riding, and, in a word, doing every thing for health after it is gone; yet, if any one had recommended these things to him by way of prevention, the advice would, in all probability, have been treated with contempt, or at least with neglect. Such is the weakness and folly of mankind, and such the want of foresight, even in those who ought to be wiser than others!

DIET OF THE STUDIOUS, &c.

WITH regard to the diet of the studious, we see no reason why they should abstain from any kind of food that is wholesome, provided they use it in moderation. They ought, however, to be sparing in the use of every thing that is windy, rancid, or hard of digestion. Their suppers should always be light, or taken soon in the evening. Their drink may be water, fine malt liquor, not too strong, good cider, wine and water, or, if troubled with acidities, water mixed with a little brandy, rum, or any other genuine spirit.

THE KIND OF EXERCISE RECOMMENDED TO PEOPLE OF STUDIOUS HABITS, &c.

WE shall only observe, with regard to those kinds of exercise which are most proper for the studious, that they should not be too violent, nor ever carried to the degree of excessive fatigue. They ought likewise to be frequently varied, so as to give action to all the different parts of the body; and should, as often as possible, be taken in the open air. In general, riding on horseback, walking, working in a garden, or playing at some active diversions, are the best.

We would likewise recommend the use of the cold bath to the studious. It will, in some measure, supply the place of exercise, and should not be neglected by persons of a relaxed habit, especially in the warm season.

No person ought either to take violent exercise, or to study immediately after a full meal.

In the above remarks on the usual diseases of the studious, my chief object was to warn them of the evil consequences of *painful* and *intense thinking*. But I should be sorry to damp the ardour of their literary pursuits, which are injurious to health only when continued with incessant toil, at late hours, and without due intervals of rest, refreshment, relaxation, and exercise. It is not thought, says the medical poet, 'tis painful thinking, that corrodes

our clay. I deem it necessary to be more explicit on this head, in consequence of having found that my former cautions to men of genius and science had been understood in too rigorous a sense, as discouraging the manly exertion of real talents.

CHAP. III.

NON-NATURALS.

By the term non-naturals, ancient physicians comprehend AIR, MEAT and DRINK, SLEEP and WATCHING, MOTION and REST, the RETENTIONS and EXCRETIONS, and the affections or passions of the mind; or, in other words, those principal matters which do not enter into the composition of the body, but which at the same time are indispensable to its existence.

OBSERVATIONS ON DIET, &c.

UNWHOLESOME *food, and irregularities of diet, occasion many diseases.* There is no doubt but the whole constitution of body may be changed by diet alone. The fluids may be thereby attenuated or condensed, rendered mild or acrimonious, coagulated or diluted, to almost any degree. Nor are its effects upon the solids less considerable. They may be braced or relaxed, have their sensibility, motions, &c. greatly increased or diminished, by different kinds of aliment. A very small attention to these things will be sufficient to show, how much the preservation of health depends upon a proper regimen of the diet.

Nor is an attention to diet necessary for the preservation of health only: it is likewise of importance in the cure of diseases. Every intention in the cure of many diseases, may be answered by diet alone. Its effects, indeed, are not always so quick as those of medicine, but they are generally more lasting: besides, it is neither so disagreeable to the patient, nor so dangerous as medicine, and is always more easily obtained.

Our intention here is not to inquire minutely into the nature and properties of the various kinds of aliment in use among mankind; nor to show their effects upon the different constitutions of the human body; but to mark some of the most pernicious errors which people are apt to fall into, with respect both to the quantity and quality of their food, and to point out their influence upon health.

It is not, indeed, an easy matter to ascertain the exact quantity of food proper for every age, sex, and constitution: but a scrupulous nicety here is by no means necessary. The best rule is to avoid all extremes. Mankind were never intended to weigh and measure their food. Nature teaches every creature when it has enough; and the calls of thirst and hunger are sufficient to inform them when more is necessary.

Though *moderation* is the chief rule with regard to the quanti-

ty, yet the quality of food merits a farther consideration. There are many ways by which provisions may be rendered unwholesome. Bad seasons may either prevent the ripening of grain, or damage it afterwards. These, indeed, are the acts of Providence, and we must submit to them; but surely no punishment can be too severe for those who suffer provisions to spoil by hoarding them, on purpose to raise the price, or who promote their own interest by adulterating the necessaries of life.*

Animal as well as vegetable food may be rendered unwholesome, by being kept too long. All animal substances have a constant tendency to putrefaction; and when that has proceeded too far, they not only become offensive to the senses, but hurtful to health. Diseased animals, and such as die of themselves, ought never to be eaten.

Animals which feed grossly, as tame ducks, hogs, &c. are neither so easily digested, nor afford such wholesome nourishment as others. No animal can be wholesome which does not take sufficient exercise. Most of our stalled cattle are crammed with gross food, but not allowed exercise nor free air; by which means they indeed grow fat, but their juices, not being properly prepared or assimilated, remain crude, and occasion indigestions, gross humours, and oppression of the spirits, in those who feed upon them.

Animals are often rendered unwholesome by being over-heated. Excessive heat causes a fever, exalts the animal salts, and mixes the blood so intimately with the flesh, that it cannot be separated. For this reason, butchers should be severely punished who overdrive their cattle. No person would choose to eat the flesh of an animal which had died in a high fever; yet that is the case with all over-drove cattle; and the fever is often raised even to the degree of madness.

But this is not the only way by which butchers render meat unwholesome. The abominable custom of filling the cellular membrane of animals with air, in order to make them appear fat, is every day practised. This not only spoils the meat, and renders it unfit for keeping, but is such a dirty trick, that the very idea of it is sufficient to disgust a person of any delicacy at every thing which comes from the shambles. Who can bear the thought of eating meat which has been blown up with air from the lungs of a dirty fellow, perhaps labouring under the very worst of diseases?

Salted animal food.—No people in the world eat such quantities of salted animal food as the English, which is one reason why they are so generally tainted with the scurvy, and its numerous train of consequences, indigestion, low spirits, hypochondriacism, &c. Animal food was surely designed for man, and, with a proper mixture of vegetables, it will be found the most wholesome; but to gorge beef, mutton, pork, fish, and fowl, twice or thrice a-day, is certainly too much. All who value health ought to be contented with making one meal of animal food in twenty-four hours, and this ought to consist of one kind only.

* The poor, indeed, are generally the first who suffer by unsound provisions; but the lives of the labouring poor are of great importance to the state: besides, diseases occasioned by unwholesome food often prove infectious, by which means they reach people in every station. It is, therefore, the interest of all to take care that no spoiled provisions of any kind be exposed to sale.

VEGETABLE DIET.

The most obstinate scurvy has often been cured by a vegetable diet; nay, milk alone will frequently do more in that disease than any medicine. Hence it is evident, that if vegetables and milk were more used in diet, we should have less scurvy, and likewise fewer putrid and inflammatory fevers. Fresh vegetables, indeed, come to be daily more used in diet; this laudable practice we hope will continue to gain ground.

Aliments.—Our aliment ought neither to be too moist nor too dry. Moist aliment relaxes the solids, and renders the body feeble. Thus we see females, who live much on tea and other watery diet, generally become weak and unable to digest solid food: hence proceed hysterics, and all their dreadful consequences. On the other hand, food that is too dry, renders the solids in a manner rigid, and the humours viscid, which disposes the body to inflammatory fevers, scurvies, and the like.

Tea.—Much has been said on the ill-effects of tea in diet. They are, no doubt, numerous; but they proceed rather from the imprudeut use of it, than from any bad qualities in the tea itself. Tea is now the universal breakfast in this part of the world; but the morning is surely the most improper time of the day for drinking it. Most delicate persons, who, by the bye, are the greatest tea-drinkers, cannot eat any thing in the morning. If such persons, after fasting ten or twelve hours, drink four or five cups of green tea without eating almost any bread, it must hurt them. Good tea, taken in a moderate quantity, not too strong, nor too hot, nor drank upon an empty stomach, will seldom do harm; but if it be bad, which is often the case, or substituted in the room of solid food, it must have many ill effects.

Cookery.—*The arts of cookery render many things unwholesome, which are not so in their own nature.* By jumbling together a number of different ingredients, in order to make a poignant sauce, or rich soup, the composition proves almost a poison. All high seasoning, pickles, &c. are only incentives to luxury, and never fail to hurt the stomach. It were well for mankind, if cookery, as an art, were entirely prohibited. Plain roasting or boiling is all that the stomach requires. These alone are sufficient for people in health, and the sick have still less need of a cook.

The liquid part of our aliment likewise claims our attention. Water is not only the basis of most liquors, but also composes a great part of our solid food. Good water must, therefore, be of the greatest importance in diet. The best water is that which is most pure, and free from any mixture of foreign bodies. Water takes up parts of most bodies with which it comes into contact; by this means it is often impregnated with metals or minerals of a hurtful or poisonous nature. Hence the inhabitants of some hilly countries have peculiar diseases, which in all probability proceed from the water. Thus the people who live near the Alps in Switzerland, and the inhabitants of the Peak of Derby, in England, have large tumours or wens on their necks (bronchocele.) This disease is generally imputed to the snow-water; but there is more

reason to believe it is owing to the minerals in the mountains through which the waters pass.*

WATER, &c.—When water is impregnated with foreign bodies, it generally appears by its weight, colour, taste, smell, heat or some other sensible quality. Our business, therefore, is to choose such water, for common use, as is lightest, and without any particular colour, taste, or smell. In most places of Britain the inhabitants have it in their power to make choice of their water, and few things would contribute more to health than a due attention to this article. But mere indolence often induces people to make use of the water that is nearest to them, without considering its qualities.

Before water is brought into great towns, the strictest attention ought to be paid to its qualities, as many diseases may be occasioned or aggravated by bad water; and when once it has been procured at a great expense, people are unwilling to give it up.

The common methods of rendering water clear by filtration; or soft, by exposing it to the sun and air, &c. are so generally known that it is unnecessary to spend time in explaining them. We shall only, in general, advise all to avoid waters which stagnate long in small lakes, ponds, or the like, as such waters often become putrid, by the corruption of animal and vegetable bodies with which they abound. Even cattle frequently suffer by drinking, in dry seasons, water which has stood long in small reservoirs, without being supplied by springs, or freshened with showers. All wells ought to be kept clean, and to have a free communication with the air.

FERMENTED LIQUORS, &c.—Notwithstanding fermented liquors have been exclaimed against by many writers, they still continue to be the common drink of almost every person who can afford them; we shall rather endeavour to assist people in the choice of these liqours, than pretend to condemn what custom has so firmly established. It is not the moderate use of sound fermented liquors which hurts mankind: it is excess, and using such as are ill-prepared or vitiated.

Fermented liquors, which are too strong, hurt digestion; and the body is so far from being strengthened by them, that it is weakened and relaxed. Many imagine that hard labour could not be supported without drinking strong liquors; this is a very erroneous notion. Men who never taste strong liquors are not only able to endure more fatigue, but also live much longer, than those who use them daily. But suppose strong liquors did enable a man to do more work, they must nevertheless waste the powers of life, and occasion premature old age. They keep up a constant fever, which exhausts the spirits, inflames the blood, and disposes the body to numberless diseases.

But fermented liquors may be too weak as well as too strong:

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* This long controverted opinion, very early broached by Dr. Buchan, relative to the cause of these tumours, (bronchocele or goitres, &c.) among the inhabitants of certain mountainous districts, is now greatly strengthened, in fact corroborated, by a curious history of the disease, in a letter from Dr. Alexander Coventry, President of the Medical Society of the state of New York, to the editors of the New York Medical and Physical Journal for June, 1824. No. 10. See also "NEW DOMESTIC MEDICAL MANUAL," under BRONCHOCELE.

when that is the case, they must either be drunk new, or they become sour and dead: when such liquors are drunk new, the fermentation not being over, they generate air in the bowels, and occasion flatulencies; and when kept till stale, they turn sour on the stomach, and hurt digestion. For this reason, all malt liquors, cider, &c. ought to be of such strength as to keep till they be ripe, and then they should be used. When such liquors are kept too long, though they should not become sour, yet they generally contract a hardness which renders them unwholesome.

All families, who can, ought to prepare their own liquors. Since preparing and vending of liquors became one of the most general branches of business, every method has been tried to adulterate them. The great object both to the makers and venders of liquor is, to render it intoxicating, and give it the appearance of age. But it is well known that this may be done by other ingredients than those which ought to be used for making it strong. It would be imprudent even to name those things which are daily made use of to render liquors heady. Suffice it to say, that the practice is very common, and that all ingredients used for this purpose are of a narcotic or stupefactive quality. But as all opiates are poisonous, it is easy to see what must be the consequence of their general use. Though they do not kill suddenly, yet they hurt the nerves, relax and weaken the stomach, and spoil the digestion.

Were fermented liquors faithfully prepared, kept to a proper age, and used in moderation, they would prove real blessings to mankind. But, while they are ill-prepared, various ways adulterated, and taken to excess, they must have many pernicious effects.

HOME BAKED BREAD, &c.—We would recommend it to families, not only to prepare their own liquors, but likewise their bread. Bread is so necessary a part of diet, that too much care cannot be bestowed in order to have it sound and wholesome. For this purpose, it is not only necessary that it be made of good grain, but likewise properly prepared, and kept free from all unwholesome ingredients. This, however, we have reason to believe, is not always the case with bread prepared by those who make a trade of vending it. Their object is rather to please the eye than to consult the health. The best bread is that which is neither too coarse nor too fine; well fermented, and made of wheat flour, or rather of wheat and rye mixed together.

PLAIN RULES TO BE OBSERVED IN THE SELECTION OF ALIMENTS, &c.

1. PERSONS whose solids are weak and relaxed ought to avoid all viscid food, or such things as are difficult of digestion. Their diet, however, ought to be nourishing; and they should take sufficient exercise in the open air.

2. Such as abound with blood should be sparing in the use of every thing that is highly nourishing, as fat meat, rich wines, strong ales, and such like. Their food should consist chiefly of bread and other vegetable substances; and their drink ought to be water, whey, or small beer.

3. Fat people should not eat freely of oily nourishing diet. They ought frequently to use radish, garlic, spices, or such things

as are heating and promote perspiration and urine. Their drink should be water, coffee, tea, or the like; and they ought to take much exercise and little sleep.—Those who are too lean must follow an opposite course.

4. Such as are troubled with acidities, or whose food is apt to sour on the stomach, should live much on animal food; and those who are afflicted with hot alkaline eructations, ought to use a diet consisting chiefly of acid vegetables.

5. People who are affected with the gout, hypochondriac or hysteric disorders, ought to avoid all flatulent food, every thing that is viscid, or hard of digestion, all salted or smoke-dried provisions, and whatever is austere, acid, or apt to turn sour on the stomach. Their food should be light, spare, cool, and of an opening nature.

6. The diet ought not only to be suited to the age and constitution, but also to the manner of life: a sedentary or studious person should live more sparingly than one who labours hard without doors. Many kinds of food will nourish a peasant very well, which would prove almost indigestible to a citizen; and the latter will live upon a diet on which the former would starve.

7. Diet ought not to be too uniform. The constant use of one kind of food might have some bad effects. Nature teaches us this, by the great variety of aliment which she has provided for man, and likewise by giving him an appetite for different kinds of food.

8. Those who labour under any particular disease, ought to avoid such aliments as have a tendency to increase it: for example, a gouty person should not indulge in rich wines, strong soups, or gravies, and should avoid all acids. One who is troubled with the gravel ought to shun all austere and astringent aliments; and those who are scorbutic should be sparing in the use of salted provisions, &c.

GENERAL OBSERVATIONS ON DIET, LONG FASTING, ITS CONSEQUENCES, REGULARITY, &c.

It has always been an established rule with respect to diet, that the softer and milder kinds of food are best adapted for children and young subjects generally; that for grown-up people the more substantial is necessary; and, with regard to old people, they should gradually, as they advance towards their climax, lessen the quantity of solid food, while they increase that of their drink, both of the diluent and cordial kind; taking care, however, that, in thus accommodating "pliant nature," that slow must be the change:—

"And stage by stage—
Slow as the stealing progress of the year."

For nature looks up to custom as a kind of hereditary right to which she is entitled by long possession, and although she may be taught to relinquish her pretensions to it, this must never be attempted by sudden changes, or hasty transitions either of one kind or other.

It is not only necessary for health that our diet be wholesome, but also that it be taken at regular periods. Some imagine long

fasting will atone for excess; but this, instead of mending the matter, generally makes it worse. When the stomach and intestines are over distended with food, they lose their proper tone, and by long fasting, they become weak, and inflated with wind. Thus either gluttony or fasting destroys the powers of digestion.

Long fasting is extremely hurtful to young people; it not only vitiates their humours, but prevents their growth. Nor is it less injurious to the aged. Most persons in the decline of life, are afflicted with wind: this complaint is not only increased, but even rendered dangerous, and often fatal, by long fasting. Old people, when their stomachs are empty, are frequently seized with giddiness, head-achs, and faintness. These complaints may generally be removed by a piece of bread and a glass of wine, or taking any other solid food; which plainly points out the method of preventing them.

It is more than probable, that many of the sudden deaths, which happen in the advanced periods of life, are occasioned by fasting too long, as it exhausts the spirits, and fills the bowels with wind: we would, therefore, advise people, in the decline of life, never to allow their stomachs to be too long empty. Many people take nothing but a few cups of tea and a little bread, from nine o'clock at night till two or three the next afternoon. Such may be said to fast almost three fourths of their time. This can hardly fail to ruin the appetite, vitiate the humours, and fill the bowels with wind; all which might be prevented by a solid breakfast.

SUPPERS AND BREAKFASTS CONTRASTED, &c.

It is a very common practice to eat a light breakfast and a heavy supper. This custom ought to be reversed. When people sup late, their supper should be very light; but the breakfast ought always to be solid. If any one eats a light supper, goes soon to bed, and rises betimes in the morning, he will be sure to find an appetite for his breakfast, and he may freely indulge it.

The strong and healthy do not indeed suffer so much from fasting as the weak and delicate; but they run great hazard from its opposite, viz. repletion. Many diseases, especially fevers, are the effect of plethora, or too great fulness of the vessels. Strong people, in high health, have generally a great quantity of blood and other humours. When these are suddenly increased by an overcharge of rich and nourishing diet, the vessels become too much distended, and obstructions and inflammations ensue. Hence so many people are seized with inflammatory and eruptive fevers, apoplexies, &c. after a feast or debauch.

All great and sudden changes in diet are dangerous. What the stomach has been long accustomed to digest, though less wholesome, will better agree with it than food of a more salutary nature to which it has not been used. When, therefore, a change becomes necessary, it ought always to be made gradually; a sudden transition from a poor and low to a rich and luxurious diet, or the contrary, might so disturb the functions of the body as to endanger health, or even to occasion death itself.

When we recommend regularity in diet, we would not be under-

stood as condemning every small deviation from it. It is next to impossible for people at all times to avoid some degree of excess, and living too much by rule might make even the smallest deviation dangerous. It may, therefore, be prudent to vary a little, sometimes taking more, sometimes less, than the usual quantity of meat and drink, provided always that a due regard be had to moderation.

The details which some writers have entered into respecting the supposed qualities of every article of food and drink, as well as the proper quantities of each, appear to me just as trifling as the minuteness of the physician who inserted in his prescription how many grains of salt should be eaten with an egg. Every man's experience of what he has found to agree or disagree with him, is a much more unerring guide than whimsical calculations of the difference between the mucilage of a carrot and a parsnip, or between the jelly contained in a leg and a shoulder of mutton. But while I point out the folly of extreme solicitude in such matters, I am far from advising people to eat and drink, without any choice or restraint, whatever falls in their way. This would be inconsistent with the rules I have already laid down. Rational enjoyment of the gifts of nature, is the happy medium between boundless indulgence and frivolous or unnecessary self-denial.

Such as have a faulty circulation through the lungs, the consequence of pulmonary or other complaints, ought to eat very little at a time, because the quantity of chyle being increased must obviously render that circulation still more uneasy. The great secret then for consumptive and asthmatic patients in particular, and upon which their cure principally depends, is to take their food in small quantities at a time. It happens, however, rather unfortunately for asthmatic patients, that their desire for food is considerably increased; in consequence of which, sanguification is but imperfectly performed, they become what is termed leucophlegmatic, that is, they acquire a dropsical tendency. The choice, therefore, as well as the quantity, of diet, is of great importance to those who have weak lungs, as well as to persons generally who are of delicate constitutions.

CHAP. IV.

AIR.

UNWHOLESOME AIR *is a very common cause of diseases.* Few are aware of the danger arising from it. People generally pay some attention to what they eat or drink, but seldom regard what goes into the lungs, though the latter proves often more suddenly fatal than the former.

Air, as well as water, takes up parts of most bodies with which it comes in contact, and is often so replenished with those of a noxious quality, as to occasion immediate death. But such vio-

lent effects seldom happen, as people are generally on their guard against them. The less perceptible influences of bad air prove more generally hurtful to mankind; we shall, therefore, endeavour to point out some of these, and to show whence the danger chiefly arises.

Airs may become noxious many ways. Whatever greatly alters its degrees of heat, cold, moisture, &c. renders it unwholesome: for example, that which is too hot dissipates the watery parts of the blood, exalts the bile, and renders the whole humours adust and thick. Hence proceed bilious and inflammatory fevers, cholera morbus, &c. Very cold air obstructs the perspiration, constringes the solids, and condenses the fluids. It occasions rheumatisms, coughs, and catarrhs, with other diseases of the throat and breast. Air that is too moist destroys the elasticity or spring of the solids, induces phlegmatic or lax constitutions, and disposes the body to intermitting fevers, dropsies, &c.

Wherever great numbers of people are crowded into one place, if the air has not a free circulation it soon becomes unwholesome. Hence it is that delicate persons are so apt to turn sick or faint in crowded churches, assemblies, or any place where the air is injured by breathing, fires, candles, or the like.

In great cities, so many things tend to contaminate the air, that it is no wonder it proves so fatal to the inhabitants. The air in cities is not only breathed repeatedly over, but is likewise loaded with sulphur, smoke, and other exhalations, besides the vapours continually arising from innumerable putrid substances, as dunghills, slaughter-houses, &c. All possible care should be taken to keep the streets of large towns open and wide, that the air may have a free current through them. They ought likewise to be kept very clean. Nothing tends more to pollute and contaminate the air of a city than dirty streets.

It is very common in this country to have churchyards in the middle of populous cities. Whether this be the effect of ancient superstition, or owing to the increase of such towns, is a matter of no consequence. Whatever gave rise to the custom, it is a bad one. It is habit alone which reconciles us to these things; by means of which the most ridiculous, nay pernicious customs, often become sacred. Certain it is, that thousands of putrid carcasses, so near the surface of the earth, in a place where the air is confined, cannot fail to taint it; and that such air, when breathed into the lungs, must occasion diseases.*

Burying within churches is a practice still more detestable. The air in churches is seldom good, and the effluvia from putrid carcasses must render it still worse. Churches are commonly old buildings with arched roofs. They are seldom open above once a week, are never ventilated by fires nor open windows, and rarely kept clean. This occasions that damp, musty, unwholesome smell which one feels upon entering a church, and renders it a very unsafe place for the weak and valetudinary. These inconveniencies

* In most eastern countries it was customary to bury the dead at some distance from any town. As this practice obtained among the Jews, the Greeks, and also the Romans, it is strange that the western parts of Europe should not have followed their example in a custom so truly laudable.

might, in a great measure, be obviated by prohibiting all persons from burying within churches, by keeping them clean, and permitting a stream of fresh air to pass frequently through them, by opening opposite doors and windows.*

Wherever air stagnates long, it becomes unwholesome. Hence the unhappy persons confined in jails not only contract malignant fevers themselves, but often communicate them to others. Nor are many of the holes, for we cannot call them houses, possessed by the poor in great towns, much better than jails. These low dirty habitations are the very lurking places of bad air and contagious diseases. Such as live in them seldom enjoy good health; and their children commonly die young. In the choice of a house, those who have it in their power ought always to pay the greatest attention to open free air.

The various methods which luxury has invented to make houses close and warm, contribute not a little to render them unwholesome. No house can be wholesome, unless the air has a free passage through it. For which reason, houses ought daily to be ventilated by opening opposite windows, and admitting a current of fresh air into every room. Beds, instead of being made up as soon as people rise out of them, ought to be turned down, and exposed to the fresh air from the open windows through the day. This would expel any noxious vapour, and could not fail to promote the health of the inhabitants.

In hospitals, jails, ships, &c. where that cannot be conveniently done, ventilators should be used. The method of expelling foul, and introducing fresh air, by means of ventilators, is a most salutary invention, and is, indeed, the most useful of all our modern medical improvements. It is capable of universal application, and is fraught with numerous advantages, both to those in health and sickness. In all places, where numbers of people are crowded together, ventilation becomes absolutely necessary.

Air which stagnates in mines, wells, cellars, &c. is extremely deleterious and fatal to life; and ought to be avoided as the most deadly poison. It often kills almost as quickly as lightning. For this reason people should be very cautious in opening cellars that have been long shut, or going down into deep wells or pits, especially if they have been kept closely covered.†

Many people who have splendid houses, choose to sleep in small apartments. This conduct is very imprudent. A bedchamber ought always to be well aired; as it is generally occupied in the night only, when all doors and windows are shut. If a fire be kept in it, the danger from a small room becomes still greater. Numbers have been stifled when asleep by a fire in a small apartment, which is always hurtful.

Those who are obliged, on account of business, to spend the day in close towns, ought, if possible, to sleep in the country. Breath-

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* One cannot pass through a large church or cathedral, even in summer, without feeling quite chilly.

† We have daily accounts of persons who lose their lives by going down into deep wells and other places where the air stagnates: all these accidents might be prevented by only letting down a lighted candle before them, and stopping when they perceive it go out; yet this precaution, simple as it is, is seldom used.

ing free air in the night will, in some measure, make up for the want of it through the day. This practice would have a greater effect in preserving the health of citizens than is commonly imagined.

Delicate persons ought, as much as possible, to avoid the air of great towns. It is peculiarly hurtful to the asthmatic and consumptive. Such persons should avoid cities as they would the plague. The hypochondriac are likewise much hurt by it. I have often seen persons so much afflicted with this malady while in town, that it seemed impossible for them to live, who, upon being removed to the country, were immediately relieved. The same observation holds with regard to nervous and hysteric women. Many people, indeed, have it not in their power to change their situation in quest of better air. All we can say to such persons is, that they should go as often abroad into the open air as they can, that they should admit fresh air frequently into their houses, and take care to keep them very clean.

It was necessary in former times, for safety, to surround cities, colleges, and even single houses, with high walls. These, by obstructing the free current of air, never fail to render such places damp and unwholesome. As such walls are now, in most parts of this country, become useless, they ought to be pulled down, and every method taken to admit a free passage to the air. Proper attention to AIR and CLEANLINESS would tend more to preserve the health of mankind, than all the prescriptions of the faculty.

Surrounding houses too closely with plantations or thick woods, likewise tends to render the air unwholesome. Wood not only obstructs the free current of the air, but sends forth great quantities of moist exhalations, which render it constantly damp. Wood is very agreeable at a proper distance from a house, but should never be planted too near it, especially in a flat country. Many of the gentlemen's seats in England are rendered very unwholesome from the great quantity of wood which surrounds them.

Houses situated in low marshy countries, or near large lakes of stagnating water, are likewise unwholesome. Waters which stagnate not only render the air damp, but load it with putrid exhalations, which produce the most dangerous and fatal diseases. Those who are obliged to inhabit marshy countries, ought to make choice of the dryest situations they can find, to live generously, and to pay the strictest regard to cleanliness.

If fresh air be necessary for those in health, it is still more so for the sick, who often lose their lives for want of it. The notion that sick people must be kept very hot, is so common, that one can hardly enter the chamber where a patient lies, without being ready to faint, by reason of the hot suffocating smell. How this must affect the sick any one may judge. No medicine is so beneficial to the sick as fresh air. It is the most reviving of all cordials, if it be administered with prudence. We are not, however, to throw open doors and windows at random upon the sick. Fresh air is to be let into the chamber gradually, and, if possible, by opening the windows of some other apartment.

The air of a sick person's chamber may be greatly freshened, and the patient much revived, by sprinkling the floor, bed, &c. fre-

quently with vinegar, juice of lemon, or any other strong vegetable acid.

In places where numbers of sick are crowded into the same house, or, which is often the case, into the same apartment, the frequent admission of fresh air becomes absolutely necessary. Infirmaries, hospitals, &c. are often rendered so noxious, for want of proper ventilation, that the sick run more hazard from them than from the disease. This is particularly the case when putrid fevers, dysenteries, and other infectious diseases prevail.

CHAP. V.

EXERCISE.

Many people look upon the necessity man is under, of earning his bread by labour, as a curse. Be this as it may, it is evident from the structure of the body, that exercise is not less necessary than food for the preservation of health: those whom poverty obliges to labour for daily bread, are not only the most healthy, but generally the most happy part of mankind. Industry seldom fails to place them above want, and activity serves them instead of physic. This is peculiarly the case with those who live by the culture of the ground. The great increase of inhabitants in infant colonies, and the longevity of such as follow agriculture every where, evidently prove it to be the most healthful as well as the most useful employment.

The love of activity shows itself very early in man. So strong is this principle, that a healthy youth cannot be restrained from exercise, even by the fear of punishment. Our love of motion is surely a strong proof of its utility. Nature implants no disposition in vain. It seems to be a catholic law throughout the whole animal creation, that no creature without exercise, should enjoy health, or be able to find subsistence. Every creature, except man, takes as much of it as is necessary. He alone, and such animals as are under his direction, deviate from this original law, and they suffer accordingly.

Inactivity never fails to induce an universal relaxation of the solids, which disposes the body to innumerable diseases. When the solids are relaxed, neither the digestion nor any of the secretions can be duly performed.

Glandular obstructions, now so common, generally proceed from inactivity. These are the most obstinate of maladies. So long as the liver, kidneys, and other glands, duly perform their functions, health is seldom impaired: but when they fail, nothing can restore it. Exercise is almost the only cure we know for glandular obstructions: indeed, it does not always succeed as a remedy; but there is reason to believe that it would seldom fail to prevent these complaints, were it used in due time. One thing is certain, that amongst those who take sufficient exercise, glandular diseases are

very little known; whereas the indolent and inactive are very seldom free from them.

Weak nerves are the constant companions of inactivity. Nothing but exercise and open air can brace and strengthen the nerves, or prevent the endless train of diseases which proceed from a relaxed state of these organs. We seldom hear the active or laborious complain of nervous diseases; these are reserved for the sons of ease and affluence. Many have been completely cured of these disorders by being reduced, from a state of opulence, to labour for their daily bread. This plainly points out the sources from whence nervous diseases flow, and the means by which they may be prevented.

It is absolutely impossible to enjoy health where the perspiration is not duly carried on; but that can never be the case where exercise is neglected. When the matter which ought to be thrown off by perspiration is retained in the body, it vitiates the humours, and occasions the gout, fevers, rheumatisms, &c. Exercise alone would prevent many of those diseases which cannot be cured, and would remove others where medicine proves ineffectual.

A late author,* in his excellent treatise on health, says, that the weak and valetudinary ought to make exercise a part of their religion. We would recommend this, not only to the weak and valetudinary, but to all whose business does not oblige them to take sufficient exercise, as sedentary artificers,† shopkeepers, studious persons, &c. Such ought to use exercise as regularly as they take food. This might generally be done without any interruption to business or real loss of time.

No piece of indolence hurts the health more than the modern custom of lying a-bed too long in the morning. This is the general practice in great towns. The inhabitants of cities seldom rise before eight or nine o'clock; but the morning is undoubtedly the best time for exercise, while the stomach is empty, and the body refreshed with sleep. Besides, the morning-air braces and strengthens the nerves, and, in some measure, answers the purpose of a cold bath. Let any one who has been accustomed to lie a-bed till eight or nine o'clock, rise by six or seven, spend a couple of hours in walking, riding, or any active diversion without doors, and he will find his spirits cheerful and serene through the day, his appetite keen, and his body braced and strengthened. Custom soon renders early rising agreeable, and nothing contributes more to the preservation of health.

The inactive are continually complaining of pains of the stomach,

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* Cheyne.

† Sedentary occupations ought chiefly to be followed by women. They bear confinement much better than men, and are fitter for every kind of business which does not require much strength. It is ridiculous enough to see a lusty fellow making pins, needles, or watch-wheels, while many of the laborious parts of husbandry are carried on by the other sex. The fact is, we want men for laborious employments, while one half of the other sex are rendered useless for want of occupations suited to their strength, &c. Were girls bred to mechanical employments, we should not see such numbers of them prostitute themselves for bread, nor find such a want of men for the important purposes of navigation, agriculture, &c. An eminent silk manufacturer told me, that he found women answer better for that business than men; and that he had lately taken a great many girls apprentices as silk-weavers. I hope his example will be followed by many others.

flatulencies, indigestions, &c. These complaints, which pave the way to many others, are not to be removed by medicines. They can only be cured by a vigorous course of exercise, to which indeed they seldom fail to yield.

Exercise, if possible, ought always to be taken in the open air. When that cannot be done, various methods may be contrived for exercising the body within doors, as the dumb bell, dancing, fencing, &c. It is not necessary to adhere strictly to any particular kind of exercise. The best way is to take them by turns, and to use that longest which is most suitable to the strength and constitution. Those kinds of exercise which give action to most of the bodily organs, are always to be preferred, as walking, running, riding, digging, rubbing furniture, and such like.

It is much to be regretted, that active and manly diversions are now so little practised. Diversions make people take more exercise than they otherwise would do, and are of the greatest service to such as are not under the necessity of labouring for their bread. As active diversions lose ground, those of a sedentary kind seem to prevail. Sedentary diversions are of no other use but to consume time. Instead of relieving the mind, they often require more thought, than either study or business. Every thing that induces people to sit still, unless it be some necessary employment, ought to be avoided.

The diversions which afford the best exercise are, hunting, shooting, playing at cricket, hand-ball, golff,* &c. These exercise the limbs, promote perspiration, and the other secretions. They likewise strengthen the lungs, and give firmness and agility to the whole body.

Such as can, ought to spend two or three hours a day on horseback; those who cannot ride, should employ the same time in walking. Exercise should never be continued too long. Over-fatigue prevents the benefit of exercise, and instead of strengthening the body tends to weaken it.

Every man should lay himself under some sort of necessity to take exercise. Indolence, like other vices, when indulged, gains ground, and at length becomes agreeable. Hence many who were fond of exercise in the early part of life, become quite averse from it afterwards. This is the case of most hypochondriac and gouty people, which renders their diseases in a great measure incurable.

In some countries laws have been made, obliging every man, of whatever rank, to learn some mechanical employment. Whether such laws were designed for the preservation of health, or the encouragement of manufacture, is a question of no importance. Certain it is, that if gentlemen were frequently to amuse and exercise themselves in this way, it might have many good effects. They would at least derive as much honour from a few masterly specimens of their own workmanship, as from the character of having ruined most of their companions by gaming or drinking.

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* Golff is a diversion very common in North Britain. It is well calculated for exercising the body, and may always be taken in such moderation as neither to over-heat nor fatigue. It has greatly the preference over cricket, tennis, or any of those games which cannot be played without violence.

Besides, men of leisure, by applying themselves to the mechanical arts, might improve them, to the great benefit of society.

Indolence not only occasions diseases, and renders men useless to society, but promotes all manner of vice. To say a man is idle, is little better than to call him vicious. The mind, if not engaged in some useful pursuit, is constantly in quest of ideal pleasures, or impressed with the apprehension of some imaginary evil. From these sources proceed most of the miseries of mankind. Certainly man was never intended to be idle. Inactivity frustrates the very design of his creation; whereas an active life is the best guardian of virtue, and the greatest preservative of health.

It is indeed evident, that the love of motion, as well as the love of food, so observable in every living creature from the moment of its birth, are wisely designed by nature as the means of its preservation. The indolent man is therefore a rebel to her laws, and will certainly provoke her severest punishment. In vain does he hope for enjoyment in the lap of sloth; its chilling influence poisons the source of every pleasure, and not only invites disease, but renders it almost incurable.

CHAP. VI.

SLEEP.

The benefits resulting from sleep are sufficiently obvious, from the effects it produces. It restores both the powers of the mind and body, when exhausted by exercise, giving vigour to the one, and restoring the other to its accustomed alacrity. By means of sleep, the muscles are again rendered active and moveable; after they have become wearied, rigid, painful, and trembling, from hard labour and severe exercise. It moderates the quickness of the pulse, which usually increases at night, and brings it back to its morning standard. It seems also to assist digestive of aliment—it diminishes both excretions and secretions; and renders the fluids thicker than otherwise they would be, particularly in a body endowed with much sensibility or mobility. Sleep, therefore, is not only useful, but absolutely indispensable, for the preservation of life and health; and it contributes most essentially to the alleviation, as well as to the total removal of disease. The want of it is equally hurtful, and in many different ways, to the nervous system. Its absence renders the external as well as internal organs of sense, and those of every kind of motion, unfit for the performance of their offices.

Sleep, therefore, like diet, ought to be duly regulated. Too little sleep weakens the nerves, exhausts the spirits, and occasions diseases; and too much renders the mind dull, the body gross, and disposes to apoplexies, lethargies, and other complaints of a similar nature. A medium ought therefore to be observed; but this is not easy to fix. Children require more sleep than grown persons,

the laborious than the idle, and such as eat and drink freely, than those who live abstemiously. Besides, the real quantity of sleep cannot be measured by time; as one person will be more refreshed by five or six hours sleep than another by eight or ten.

Children may always be allowed to take as much sleep as they please; but for adults, six or seven hours is certainly sufficient, and no one ought to exceed eight. Those who lie in bed more than eight hours may slumber, but they can hardly be said to sleep; such generally toss and dream away the fore part of the night, sink to rest towards morning, and dose till noon. The best way to make sleep sound and refreshing is to rise betimes. The custom of lying in bed for nine or ten hours, not only makes the sleep less refreshing, but relaxes the solids, and greatly weakens the constitution.

Nature points out night as the proper season for sleep. Nothing more certainly destroys the constitution than night-watching. It is a great pity that a practice so destructive to health should be so much in fashion. How quickly the want of rest in due season will blast the most blooming complexion, or ruin the best constitution, is evident from the ghastly countenances of those who, as the phrase is, turn day into night, and night into day.

TO PROCURE REFRESHING SLEEP, &c.

To make sleep refreshing, the following things are requisite: First, to take sufficient exercise in the open air; to avoid strong tea or coffee; next, to eat a light supper; and, lastly, to lie down with a mind as cheerful and serene as possible.

It is certain that too much exercise will prevent sleep, as well as too little. We seldom, however, hear the active and laborious complain of restless nights. It is the indolent and slothful who generally have these complaints. Is it any wonder that a bed of down should not be refreshing to a person who sits all day in an easy chair? A great part of the pleasure of life consists in alternate rest and motion; but they who neglect the latter can never relish the former. The labourer enjoys more true luxury in plain food and sound sleep, than is to be found in sumptuous tables and downy pillows, where exercise is wanting.

That light suppers cause sound sleep, is true even to a proverb. Many persons, if they exceed the least at that meal, are sure to have uneasy nights; and, if they fall asleep, the load and oppression on their stomach and spirits occasion frightful dreams, broken and disturbed repose, the night-mare, &c. Were the same persons to go to bed with a light supper, or sit up till that meal was pretty well digested, they would enjoy sound sleep, and rise refreshed and cheerful. There are indeed some people who cannot sleep unless they have eat some solid food at night; but this does not imply the necessity of a heavy supper: besides, these are generally persons who have accustomed themselves to this method, and who do not take a sufficient degree of exercise.

Nothing more certainly disturbs our repose than anxiety. When the mind is not at ease, one seldom enjoys sound sleep. This greatest of human blessings flies the wretched and visits the hap-

py, the cheerful, and the gay. This is a sufficient reason why every man should endeavour to be as easy in his mind as possible when he goes to rest. Many by indulging grief and anxious thought, have banished sound sleep so long, that they could never afterwards enjoy it.

Sleep, when taken in the fore part of the night, is generally reckoned most refreshing. Whether this be the effect of habit or not, is hard to say; but as most people are accustomed to go early to bed when young, it may be presumed that sleep, at this season, will prove most refreshing to them ever after. Whether the fore part of the night be best for sleep or not, surely the fore part of the day is fittest both for business and amusement. I hardly ever knew an early riser who did not enjoy a good state of health.*

Early rising is the natural consequence of going to bed early; and this habit implies sobriety, good order, and an exemption from many fashionable follies extremely prejudicial to health. The man, who accustoms himself to go to bed at an early hour, can seldom join the revels of Bacchus, or what are improperly called the *amusements* of the gay world. His rest is not disturbed by the effects of unseasonable luxury. He knows, that temperance, moderate exercise, composure of mind, and external tranquillity, are the best opiates. His slumbers are sound and refreshing. The waste of spirits on the preceding day is fully repaired. Every muscle, every fibre, every nerve has regained its proper tone. He rises with cheerfulness and vigour to breathe the morning air, and to enter upon the duties of the day. In short, an attention to this single point of going to bed early, and of rising betimes, will be found to supersede a variety of other precepts, and may be justly called the *golden rule* for the attainment of health and long life.

CHAP. VII.

CLOTHING.

The *clothing ought to be suited to the climate.* Custom has, no doubt, a very great influence in this article; but no custom can ever change the nature of things so far, as to render the same clothing fit for an inhabitant of Nova Zembla and the Island of Jamaica. It is not indeed necessary to observe an exact proportion between the quantity of clothes we wear, and the degree of latitude which we inhabit; but, at the same time, proper attention ought to be paid to it, as well as to the openness of the country, the frequency and violence of storms, &c.

In youth, while the blood is hot and the perspiration free, it is less necessary to cover the body with a great quantity of clothes;

* Men of every occupation, and in every situation of life, have lived to a good old age; nay some have enjoyed this blessing whose plan of living was by no means regular: but it consists with observation, that all very old men have been early risers. This is the only circumstance attending longevity to which I never knew an exception.

but in the decline of life, when the skin becomes rigid and the humours more cool, the clothing should be increased. Many diseases in the latter period of life proceed from a defect of perspiration: these may, in some measure, be prevented by a suitable addition to the clothing, or by wearing such as are better calculated for promoting the discharge from the skin, as clothes made of cotton, flannel, &c.

The clothing ought likewise to be suited to the season of the year. Clothing may be warm enough for summer, which is by no means sufficient for winter. The greatest caution, however, is necessary in making these changes. We ought neither to put off our winter clothes too soon, nor to wear our summer ones too long. In this country, the winter often sets in very early with great rigour, and we have frequently cold weather even after the commencement of the summer months. It would likewise be prudent not to make the change all at once, but to do it gradually; and indeed the changes of apparel in this climate ought to be very inconsiderable, especially among those who have passed the meridian of life.*

Clothes often become hurtful to the wearer by their being made subservient to the purposes of pride or vanity. Mankind in all ages seem to have considered clothes in this view; accordingly their fashion and figure have been continually varying, with very little regard either to health, the climate, or conveniency: a farthingale, for example, may be very necessary in hot southern climates, but surely nothing can be more ridiculous in the cold regions of the north.

Even the human shape is often attempted to be mended by dress, and those who know no better believe that mankind would be monsters without its assistance. All attempts of this nature are highly pernicious. The most destructive of them in this country is that of squeezing the stomach and bowels into as narrow a compass as possible, to procure what is falsely called, a fine shape.† By this practice, the action of the stomach and bowels, the motion of the heart and lungs, and almost all the vital functions, are obstructed. Hence proceed indigestions, syncopes or fainting fits, coughs, consumptions of the lungs, and other complaints so common among females.

The feet likewise often suffer by pressure. How a small foot came to be reckoned genteel, I will not pretend to say; but certain it is, that this notion has made many persons lame. Almost nine tenths of mankind are troubled with corns; a disease that is seldom or never occasioned but by strait shoes. Corns are not only very troublesome, but by rendering people unable to walk, they may likewise be considered as the remote cause of other diseases.‡

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* *That colds kill more than plagues* is an old observation; and, with regard to this country, it holds strictly true. Every person of discernment, however, will perceive, that most of the colds which prove so destructive to the inhabitants of Britain, are owing to their imprudence in changing clothes. A few warm days in March or April induce them to throw off their winter garments, without considering that our most penetrating colds generally happen in the spring.

† This madness seems to have pervaded the minds of mothers in every age and country. Terence, in his comedy of the Eunuch, ridicules the Roman matrons for attempting to mend the shape of their daughters.

‡ We often see persons, who are rendered quite lame by the nails of their toes hav

The size and figure of the shoe ought certainly to be adapted to the foot. In children the feet are as well shaped as the hands, and the motion of the toes as free and easy as that of the fingers; yet few persons in the advanced period of life are able to make any use of their toes; they are generally, by narrow shoes, squeezed all of a heap, and often laid over one another in such a manner as to be rendered altogether incapable of motion. Nor is the high heel less hurtful than the narrow toe. A lady may seem taller for walking on her tiptoes, but she will never walk well in this manner. It strains her joints, distorts her limbs, makes her stoop, and utterly destroys all her ease and gracefulness of motion; it is entirely owing to shoes with high heels and narrow toes, that not one female in ten can be said to walk well.

In fixing on the clothes, due care should be taken to avoid all tight bandages. Garters, buckles, &c. when drawn too tight, not only prevent the free motion and use of the parts about which they are bound, but likewise obstruct the circulation of the blood, which prevents the equal nourishment and growth of these parts, and occasions various diseases. Tight bandages about the neck, as stocks, cravats, necklaces, &c. are extremely dangerous. They obstruct the blood in its course from the brain, by which means head-achs, vertigoes, apoplexies, and other fatal diseases, are often occasioned.

The perfection of dress is to be easy and clean. Nothing can be more ridiculous, than for any one to make himself a slave to fine clothes. Such a one, and many such there are, would rather remain as fixed as a statue from morning till night, than discompose a single hair, or alter the position of a pin. Were we to recommend any particular pattern for dress, it would be that which is worn by the people called quakers. They are always neat, clean, and often elegant, without any thing superfluous. What others lay out upon tawdry laces, ruffles, and ribands, they bestow upon superior cleanliness. Finery is only the affectation of dress, and very often covers a great deal of dirt.

We shall only add, with regard to clothing, that it ought not only to be suited to the climate, the season of the year, and the period of life, but likewise to the temperature and constitution. Robust persons are able to endure either cold or heat better than the delicate, consequently may be less attentive to their clothing. But the precise quantity of clothes necessary for any person cannot be determined by reasoning. It is entirely a matter of experience, and every man is the best judge for himself what quantity of clothes is necessary to keep him warm.*

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ing grown into the flesh, and frequently hear of mortifications proceeding from this cause. All these, and many other inconveniences attending the feet, must be imputed solely to the use of short and tight shoes.

Though we hear frequently of plasters, salves, ointments, &c. for *eradicating* corns, yet they are never known to produce that effect. The only rational mode of proceeding is to soften the corn a little by immersion in warm water, and then to cut it carefully, and to renew this operation every week, till the scarf skin is reduced to its original or natural thinness, after which it must be preserved from the irritating pressure of strait shoes, which had at first occasioned the painful callosity.

* The celebrated Boerhaave used to say, that nobody suffered by cold, save fools and beggars; the latter not being able to procure clothes, and the former not having sense to wear them. Be this as it may, I can with the strictest truth declare, that in

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CHAP. VIII.

OF INTEMPERANCE.

A MODERN author* observes, that temperance and exercise are the two best physicians in the world. He might have added, that if these were duly regarded, there would be little occasion for any other. Temperance may justly be called the parent of health; yet numbers of mankind act as if they thought diseases and death too slow in their progress, and, by intemperance and debauch, seem as it were to solicit their approach.

The danger of intemperance appears from the very construction of the human body. Health depends on that state of the solids and fluids which fits them for the due performance of the vital functions; and while these go regularly on, we are sound and well; but whatever disturbs them necessarily impairs health. Intemperance never fails to disorder the whole animal economy; it hurts the digestion, relaxes the nerves, and renders the different secretions irregular, vitiates the humours, and occasions numberless diseases.

The analogy between the nourishment of plants and animals affords a striking proof of the danger of intemperance. Moisture and manure greatly promote vegetation; yet an over-quantity of either will entirely destroy it. The best things become hurtful, nay destructive, when carried to excess. Hence we learn, that the highest degree of human wisdom consists in regulating our appetites and passions so as to avoid all extremes. It is that chiefly which entitles us to the character of rational beings. The slave of appetite will ever be the disgrace of human nature.

The author of nature hath endued us with various passions, for the propagation of the species, the preservation of the individual, &c. Intemperance is the abuse of these passions; and moderation consists in the proper regulation of them. Men, not contented with satisfying the simple calls of Nature, create artificial wants, and are perpetually in search after something that may gratify them; but imaginary wants can never be gratified. Nature is content with little; but luxury knows no bounds. Hence the epicure, the drunkard, and the debauchee, seldom stop in their career till their money or their constitution fails; then indeed they generally see their error when too late.

It is impossible to lay down fixed rules with regard to diet, on account of the different constitutions of mankind. The most ignorant person, however, certainly knows what is meant by excess: and it is in the power of every man, if he chooses, to avoid it.

The great rule of diet is to study simplicity. Nature delights in the most plain and simple food, and every animal, except man, follows her dictates. Man alone riots at large, and ransacks the

* Rousseau.

whole creation in quest of luxuries, to his own destruction. An elegant writer* of the last age speaks thus of intemperance in diet: "For my part, when I behold a fashionable table set out in all its "magnificence, I fancy that I see gouts and dropsies, fevers and "lethargies, with other innumerable distempers, lying in ambus-"cade among the dishes."

Nor is intemperance in other things less destructive than in diet. How quickly does the immoderate pursuit of carnal pleasures, or the abuse of intoxicating liquors, ruin the best constitution! Indeed these vices generally go hand in hand. Hence it is that we so often behold the votaries of Bacchus and Venus, even before they have arrived at the prime of life, worn out with diseases, and hastening with swift pace to an untimely grave. Did men reflect on the painful diseases and premature deaths which are daily occasioned by intemperance, it would be sufficient to make them shrink back with horror from the indulgence even of their darling pleasures.

Intemperance does not hurt its votaries alone; the innocent too often feel the direful effects of it. How many wretched orphans are to be seen embracing dung-hills, whose parents, regardless of the future, spent in riot and debauch what might have served to bring up their offspring in a decent manner! How often do we behold the miserable mother, with her helpless infants, pining in want, while the cruel father is indulging his insatiate appetites!

Families are not only reduced to misery, but even extirpated, by intemperance. Nothing tends so much to prevent propagation, and to shorten the lives of children, as the intemperance of parents. The poor man who labours all day, and at night lies down contented with his humble fare, can boast a numerous offspring, while his pampered lord, sunk in ease and luxury, often languishes without an heir to his ample fortunes. Even states and empires feel the influence of intemperance, and rise or fall as it prevails.

Instead of mentioning the different kinds of intemperance, and pointing out their influence upon health, we shall only, by way of example, make a few observations on one particular species of that vice, viz. *the abuse of intoxicating liquors.*

Every act of intoxication puts nature to the expense of a fever, in order to discharge the poisonous draught. When this is repeated almost every day, it is easy to foresee the consequences. That constitution must be strong indeed which is able long to hold out under a daily fever; but fevers occasioned by drinking do not always go off in a day; they frequently end in an inflammation of the breast, liver, or brain, and produce fatal effects.

Though the drunkard should not fall by an acute disease, he seldom escapes those of a chronic kind. Intoxicating liquors, when used to excess, weaken the bowels and spoil the digestion; they destroy the power of the nerves, and occasion paralytic and convulsive disorders; they likewise heat and inflame the blood, destroy its balsamic quality, render it unfit for circulation and the nourishment of the body. Hence obstructions, atrophies, dropsies, and diseases of the lungs. These are the common ways in which

* Addison.

drunkards make their exit. Disorders of this kind, when brought on by hard drinking, seldom admit of a cure.

Many people injure their health by drinking, who seldom get drunk. The continual habit of soaking, as it is called, though its effects be not so violent, is not less pernicious. When the vessels are kept constantly full and upon the stretch, the different digestions can neither be duly performed, nor the humours properly prepared. Hence most people of this character are afflicted with the gout, the gravel, ulcerous sores in the legs, &c. If these disorders do not appear, they are seized with low spirits, hypochondriacal affections, and other symptoms of indigestion.

Hard drinking is no doubt one of the causes to which we must impute the increase of consumptions. The great quantities of viscid malt liquor drank by the common people of England, cannot fail to render the blood sizy and unfit for circulation; from whence proceed obstructions, and inflammations of the lungs. There are few great ale-drinkers who are not phthisical: nor is that to be wondered at, considering the glutinous and almost indigestible nature of strong ale.

Those who drink ardent spirits or strong wines run still greater hazard; these liquors heat and inflame the blood, and tear the tender vessels of the lungs to pieces; yet so great is the consumption of them in this country, that one would almost be induced to think that the inhabitants lived upon them.

The habit of drinking proceeds frequently from misfortunes in life. The miserable fly to it for relief. It affords them, indeed, a temporary ease. But, alas! this solace is short-lived; and when it is over, the spirits sink as much below their usual tone as they had before been raised above it. Hence a repetition of the dose becomes necessary, and every fresh dose makes way for another, till the unhappy wretch becomes a slave to the bottle, and at length falls a sacrifice to what at first perhaps was taken only as a medicine. No man is so dejected as the drunkard when his debauch is gone off. Hence it is, that those who have the greatest flow of spirits while the glass circulates freely, are of all others the most melancholy when sober, and often put an end to their own miserable existence in a fit of spleen or ill-humour.

Drunkenness not only proves destructive to health, but likewise to the faculties of the mind. It is strange that creatures, who value themselves on account of a superior degree of reason to that of brutes, should take pleasure in sinking so far below them. Were such as voluntarily deprive themselves of the use of reason to continue ever after in that condition, it would seem but a just punishment. Though this be not the consequence of one act of intoxication, it seldom fails to succeed a course of it. By a habit of drinking, the greatest genius is often reduced to a mere idiot.*

* It is amazing that our improvements in arts, learning, and politeness, have not put the barbarous custom of drinking to excess out of fashion. It is indeed less common in South Britain than it was formerly; but it still prevails very much in the North, where this relic of barbarity is mistaken for hospitality. There no man is supposed to entertain his guests well, who does not make them drunk. Forcing people to drink is certainly the greatest piece of rudeness that any man can be guilty of. Manliness, complaisance, or mere good-nature, may induce a man to take his glass, if urged to it

Intoxication is peculiarly hurtful to young persons. It heats their blood, impairs their strength, and obstructs their growth; besides, the frequent use of strong liquors in the early part of life destroys any benefit that might arise from them afterwards. Those who make a practice of drinking generous liquors when young, cannot expect to reap any benefit from them as a cordial in the decline of life.

Drunkenness is not only in itself a most abominable vice, but it is an inducement to many others. There is hardly any crime so horrid that the drunkard will not perpetrate for the love of liquor. We have known mothers sell their children's clothes, the food that they should have eat, and afterwards even the infants themselves, in order to purchase the accursed draught.

It is of the utmost importance to check the first propensities to gluttony and intoxication, or they soon become uncontrollable. With respect to eating, the stomach, being often put upon the full stretch, feels uneasiness from the least vacuity, and acquires by degrees a sort of unnatural craving, the gratifications of which are sure to be attended with a stupor, debility, and disease.

The same remark is applicable to drinking. After frequent indulgence in excess, the smallest self-denial causes a faintness and depression of spirits, which nothing can remove but the favourite dram or pretended cordial. Nay more, the repetition of the last night's debauch is looked upon as the best remedy for the sickness of the ensuing day. Mild diluting liquors are rejected as insipid, and some hot stimulant is required for the palate and stomach, without considering, that by such means the action of the heart and arteries is stimulated also; that the lungs are inflamed; and the whole system is relaxed and enfeebled.

CHAP. IX.

CLEANLINESS.

THE *want of cleanliness is a fault which admits of no excuse.* Where water can be had for nothing, it is surely in the power of every person to be clean. The continual discharge from our bodies by perspiration, renders frequent change of apparel necessary. Changing apparel greatly promotes the secretion from the skin, so necessary for health. When that matter which ought to be carried off by perspiration is either retained in the body or re-absorbed from dirty clothes, it must occasion diseases.

*Diseases of the skin are chiefly owing to want of cleanliness.** They

at a time when he might as well take poison. The custom of drinking to excess has long been out of fashion in France; and, as it begins to lose ground among the polite part of the English, we hope it will soon be banished from every part of this island.

* Mr. Pott, in his surgical observations, was the first to notice a disease which he called the chimney-sweeper's cancer, now well known, as it is almost peculiar to that unhappy set of people, and of which he has left us a concise and accurate history.

may, indeed, be caught by infection, or brought on by poor living, unwholesome food, &c.; but they will seldom continue long where cleanliness prevails. To the same cause must we impute the various kinds of vermin which infest the human body, houses, &c. These may always be banished by cleanliness alone, and wherever they abound, we have reason to believe it is neglected.

One common cause of putrid and malignant fevers is the want of cleanliness. These fevers commonly begin among the inhabitants of close, dirty houses, who breathe unwholesome air, take little exercise, and wear dirty clothes. There the infection is generally hatched, which often spreads far and wide, to the destruction of many. Hence cleanliness may be considered as an object of public attention. It is not sufficient that I be clean myself, while the want of it in my neighbour affects my health as well as his. If dirty people cannot be removed as a common nuisance, they ought at least to be avoided as infectious. All who regard their health should keep at a distance even from their habitations.

In places where great numbers of people are collected, cleanliness becomes of the utmost importance. It is well known that infectious diseases are communicated by tainted air. Every thing, therefore, which tends to pollute the air, or spread the infection, ought with the utmost care to be guarded against. For this reason, in great towns, no filth, of any kind, should be permitted to lie upon the streets. Nothing is more apt to convey infection than the excrements of the diseased.

In many great towns the streets are little better than dung-hills, being frequently covered with ashes, dung, and nastiness of every kind. Even slaughter-houses, or killing-shambles, are often to be seen in the very centre of great towns. The putrid blood, excrements, &c. with which these places are generally covered, cannot fail to taint the air, and render it unwholesome. How easily might this be prevented by active magistrates, who have it always in their power to make proper laws relative to things of this nature, and to enforce the observance of them?

Whatever pretensions people may make to learning, politeness, or civilization, we will venture to affirm, that while they neglect cleanliness, they are in a state of barbarity.*

The peasants in most countries seem to hold cleanliness in a sort of contempt. Were it not for the open situation of their houses, they

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This he attributes to neglect of cleanliness, and with great justice. I am convinced that if that part of the body which is the seat of this cruel disease were kept clean by frequent washing, it would never happen. The climbing-boys, as they are called, are certainly the most miserable wretches on the face of the earth; yet, for cleaning chimneys, no such persons are necessary.

According to the opinion of Mr. Earle, (see Medico Chirurgical Transactions, vol. xii.) it is invariably produced by the irritation of soot applied to the rugæ or folds of the skin. It is not a common disease, and rarely attacks under the age of thirty, which accounts for its comparative unfrequency.

* In ancient Rome the greatest men did not think cleanliness an object unworthy of their attention. Pliny says, the *Cloacæ*, or common sewers for the conveyance of filth and nastiness from the city, were the greatest of all the public works; and bestows higher encomiums upon Tarquinius, Agrippa, and others who made and improved them, than those who achieved the greatest conquests.

How truly great does the Emperor Trajan appear when giving directions to Pliny his proconsul, concerning the making of a common sewer for the health and convenience of a conquered city!

would often feel the bad effects of this disposition. One seldom sees a farm-house without a durg-hill before the door, and frequently the cattle and their masters lodge under the same roof. Peasants are likewise extremely careless with respect to change of apparel, keeping their houses, &c. clean. This is merely the effect of indolence and a dirty disposition. Habit may, indeed, render it less disagreeable to them, but no habit can ever make it salutary to wear dirty clothes, or breathe unwholesome air.

As many articles of diet come through the hands of peasants, every method should be taken to encourage and promote habits of cleanliness among them. This, for example, might be done, by giving a small premium to the person who brings the cleanest and best article of any kind to market, as butter, cheese, &c., and by punishing severely those who bring it dirty. The same method should be taken with butchers, bakers, brewers, and all who are employed in preparing the necessaries of life.

In camps the strictest regard should be paid to cleanliness. By negligence in this matter, infectious diseases are often spread amongst a whole army; and frequently more die of these than by the sword. The Jews, during their encampments in the wilderness, received particular instructions with respect to cleanliness.* The rules enjoined them ought to be observed by all in the like situation. Indeed the whole system of laws delivered to that people has a manifest tendency to promote cleanliness. Whoever considers the nature of their climate, the diseases to which they were liable, and their dirty disposition, will see the propriety of such laws.

It is remarkable, that in the most eastern countries, cleanliness makes a great part of their religion. The Mahometan, as well as the Jewish religion, enjoins various bathings, washings, and purifications. No doubt these might be designed to represent inward purity, but they were at the same time calculated for the preservation of health. However whimsical these washings may appear to some, few things would tend more to prevent diseases than a proper attention to many of them. Were every person, for example, after visiting the sick, handling a dead body, or touching any thing that might convey infection, to wash before he went into company, or sat down to meat, he would run less hazard either of catching the infection himself, or of communicating it to others.

NECESSITY OF FREQUENT ABLUTIONS, &c.

FREQUENT washing not only removes the filth and sordes which adhere to the skin, but likewise promotes the perspiration, braces the body, and enlivens the spirits. How refreshed, how cheerful, and agreeable does one feel on being shaved, washed, and shifted, especially when these offices have been neglected longer than usual!

The eastern custom of washing the feet, though less necessary in this country, is nevertheless a very agreeable piece of cleanliness, and contributes greatly to the preservation of health. The sweat and dirt with which these parts are frequently covered, cannot fail to obstruct the perspiration. This piece of cleanliness

* See Deuteron. chap. xxii. ver. 12, 13.

would often prevent colds and fevers. Were people careful to bathe their feet and legs in lukewarm water at night, after being exposed to cold or wet through the day, they would seldom experience the ill effects which often proceed from these causes.

A proper attention to cleanliness is no where more necessary than on shipboard. If epidemical distempers break out there, no one can be safe. The best way to prevent them is to take care that the whole company be cleanly in their clothes, bedding, &c. When infectious diseases do break out, cleanliness is the most likely means to prevent their spreading: it is likewise necessary to prevent their returning afterwards, or being conveyed to other places. For this purpose the clothes, bedding, &c. of the sick ought to be carefully washed, and fumigated with brimstone. Infection will lodge a long time in dirty clothes, and afterwards break out in the most terrible manner.

In places where great numbers of sick people are collected together, as jails, hospitals, &c. cleanliness ought to be most religiously observed. The very smell in such places is often sufficient to make one sick. It is easy to imagine what effect that is likely to have upon the diseased. In an hospital or infirmary where cleanliness is neglected, a person in perfect health has a greater chance to become sick than a sick person has to get well.

Few things are more unaccountable than that neglect, or rather dread of cleanliness, which appears among those who have the care of the sick: they think it almost criminal to suffer any thing that is clean to come near a person in a fever, for example, and would rather allow him to wallow in all manner of filth than change the least bit of his linen. If cleanliness be necessary for persons in health, it is certainly more so for the sick. Many diseases may be cured by cleanliness alone; most of them might be mitigated by it; and where it is neglected, the slightest disorders are often changed into the most malignant. The same mistaken care which prompted people to prevent the least admission of fresh air to the sick, seems to have induced them to keep them dirty. Both these destructive prejudices will, we hope, be soon entirely eradicated.

Cleanliness is certainly agreeable to our nature. We cannot help approving it in others, even though we should not practise it ourselves. It sooner attracts our regard than even finery itself, and often gains esteem where that fails. It is an ornament to the highest as well as the lowest station, and cannot be dispensed with in either. Few virtues are of more importance to society than general cleanliness. It ought to be carefully cultivated every where; but in populous cities it should be almost revered.*

* As it is impossible to be thoroughly clean without a sufficient quantity of water, we would earnestly recommend it to the magistrates of great towns to be particularly attentive to this article. Most great towns in Britain are so situated as to be easily supplied with water; and those persons who will not make a proper use of it after it is brought to their hand, certainly deserve to be severely punished. The streets of great towns, where water can be had, ought to be washed every day. This is the only effectual method of keeping them thoroughly clean; and, upon trial, we are persuaded it will be found the cheapest.

Some of the most dreadful diseases incident to human nature might, in my opinion, be entirely eradicated by cleanliness.

CHAP. X.

INFECTION AND CONTAGION.

INFECTION is designated a febrific agent, produced by the decomposition of animal and vegetable substances. It usually exists in the state of miasm or gas, and, in this form, occurs in filthy houses, ships, jails, hospitals, and cities; and also in marshes, and fenny and low districts of country. Under the denominations of *marsh, or paludal miasmata, exhalations of the soil, vegeto-animal effluvium, malaria, human effluvia, febrile and putrid contagion*, its various specific effects are detailed in the works of practical writers, as having a decided influence on the human body.*

CONTAGION is a poison generated by morbid animal secretion, possessing the power of inducing a similar morbid action in healthy bodies, whereby it is reproduced, and indefinitely modified. This contagion can only be known by its effects, and can only be divided into genera by classifying it with the diseases it produces: *e. g.* 1st, Contagion communicable exclusively by contact, the species of which are as follows: *itch, syphilis, sibbens, loanda of Africa, frambesia* or *yaws, elephantiasis, hydrophobia*, and *small-pox.*† These diseases cannot be conveyed through the medium of the air, but require actual contact. Hence they are strictly contagious, in the etymological sense of the word. 2d, Contagion communicable both by contact and by the atmosphere. These are liable to become epidemic, in contradistinction to those of the first genera. In this the species are, small-pox, measles, chicken-pox, scarlet fever, hooping-cough, &c.

One of the laws which govern these contagions is, that they are communicable in every season, in the heat of summer as well as in the cold of winter, in a pure as well as an impure air. Another law is, general *insusceptibility* to future attacks of the same disease, but with exceptions.

Many diseases are infectious. Every person ought, therefore, as far as he can, to avoid all communication with the diseased. The common practice of visiting the sick, though often well meant, has many ill consequences. Far be it from me to discourage any act of charity or benevolence, especially towards those in distress; but I cannot help blaming such as endanger their own or their neighbours' lives, by a mistaken friendship, or an impertinent curiosity.

The houses of the sick, especially in the country, are generally crowded from morning till night with idle visiters. It is customary in such places, for servants and young people to wait upon the

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* It has erroneously, we conceive, been denied that animal substances have any thing to do in the production of febrific miasmata. An unequivocal proof, however, has lately been exhibited of the contrary opinion, or rather fact, produced by opening a grave in the island of Lenten. See *Med. Chirurg. Review.*

† To these, Dr. Hossack, of New York, adds influenza, and cynancha maligna, or putrid sore throat, although Dr. Smith, whose modification of Dr. H.'s classification we have given, says, though without proof, that the former is evidently not contagious, and that the latter is either a modification of scarlatina, or an atmospheric disease.

sick by turns, and even to sit up with them all night. It would be a miracle indeed should such always escape. Experience teaches us the danger of this conduct. People often catch fevers in this way, and communicate them to others, till at length they become epidemic.

It would be thought highly improper for one who had not had the small-pox, to wait upon a patient in that disease; yet many other fevers are almost as infectious as the small-pox, and not less fatal. Some imagine that fevers prove more fatal in villages than in great towns, for want of proper medical assistance. This may sometimes be the case; but I am inclined to think it oftener proceeds from the cause above-mentioned.

Were a plan to be laid down for communicating infection, it could not be done more effectually than by the common method of visiting the sick. Such visiters not only endanger themselves and their connexions, but likewise hurt the sick. By crowding the house, they render the air unwholesome, and by their private whispers and dismal countenances, disturb the imagination of the patient, and depress his spirits. Persons who are ill, especially in fevers, ought to be kept as quiet as possible. The sight of strange faces, and every thing that disturbs the mind, hurts them.

The common practice in country-places, of inviting great numbers of people to funerals, and crowding them into the same apartment where the corpse lies, is another way of spreading infection. The infection does not always die with the patient. Every thing that comes into contact with his body while alive, receives the contagion, and some of them, as clothes, blankets, &c. will retain it for a long time. Persons who die of infectious disorders ought not to lie long unburied; and people should keep as much as possible at a distance from them.

It would tend greatly to prevent the spreading of infectious diseases, if those in health were kept at a proper distance from the sick. The Jewish Legislator, among many other wise institutions for preserving health, has been peculiarly attentive to the means of preventing infection, or *defilement*, as it is called, either from a diseased person or a dead body. In many cases the diseased were to be separated from those in health; and it was deemed a crime even to approach their habitations. If a person only touched a diseased or dead body, he was appointed to wash himself in water, and to keep for some time at a distance from society.

Infectious diseases are often communicated by clothes. It is extremely dangerous to wear apparel which has been worn by a person who died of an infectious disease, unless it has been well washed and fumigated, as infection may lodge a long time in it, and afterwards produce very tragical effects. This shows the danger of buying at random the clothes which have been worn by other people.

Infectious disorders are frequently imported. Commerce, together with the riches of foreign climes, brings us also their diseases. These do often more than counterbalance all the advantages of that trade by means of which they are introduced. It is to be regretted, that so little care is commonly bestowed, either to prevent the introduction or spreading of infectious maladies. Some atten-

tion indeed is generally paid to the plague; but other diseases pass unregarded.

Infection is often spread through cities, by jails, hospitals, &c. These are frequently situated in the very middle of populous towns; and when infectious diseases break out in them, it is impossible for the inhabitants to escape. Did magistrates pay any regard to the health of the people, this evil might be easily remedied.

Many are the causes which tend to diffuse infection through populous cities. The whole atmosphere of a large town is one contaminated mass, abounding with various kinds of infection, and must be pernicious to health. The best advice that we can give to such as are obliged to live in large cities, is to choose an open situation; to avoid narrow, dirty, crowded streets; to keep their own house and offices clean; and to be as much abroad in the open air as their time will permit.

It would tend greatly to prevent the spreading of infectious diseases, were proper nurses every where employed to take care of the sick. This might often save a family, or even a whole town, from being infected by one person. We do not mean that people should abandon their friends or relations in distress, but only to put them on their guard against being too much in company with those who are afflicted with diseases of an infectious nature.

Such as wait upon the sick in infectious diseases, run very great hazard. They should stuff their noses with tobacco, or some other strong-smelling herb, as rue, tansy, or the like. They ought likewise to keep the patient very clean, to sprinkle the room where he lies with vinegar or other strong acids, frequently to admit a stream of fresh air into it, and to avoid the smell of his breath as much as they can. They ought never to go into company without having changed their clothes and washed their hands; otherwise, if the disease be infectious, they will in all probability carry the contagion along with them.

However trifling it may appear to inconsiderate persons, we will venture to affirm, that a due attention to those things which tend to diffuse infection would be of great importance in preventing diseases. As most diseases are in some degree infectious, no one should continue long with the sick, except the necessary attendants. I mean not, however, by this caution to deter those whose duty or office leads them to wait upon the sick, from such a laudable and necessary employment.

As a disinfecting agent, either of the following simple and easily obtained fumigations, may be carried at least once a-day through the apartments of the sick; or for the purpose of fumigating apartments where sick people have been lodged:

Take nitrate of potash, (nitre,) four drachms.
Sulphuric acid, (oil of vitriol,) two drachms.

Place them in a saucer upon hot sand;

or,

Take muriate of soda, (common salt,) three ounces.
Black oxide of manganese, one ounce.

Sulphuric acid, one ounce.
Water, two ounces.

Mix the three first ingredients, and pour in the water gradually, when visible streams of gas will be elicited, capable of destroying the contagious effluvia generated in the apartment, or about the furniture, bed-clothes, &c. The saucer, or other earthenware vessel, containing either of these, may be placed in the middle of the room, observing to have, during its use, the doors and windows closely shut.

In a conversation with the late Sir John Pringle, for whom I had a great regard, he expressed some apprehension that the contents of this chapter might deter people from attending their friends and relations in fevers. I told Sir John that was the very evil I meant to cure, having always found the country-people too apt to visit their friends and neighbours in fever, even so as to crowd the house, and incommode the sick. Nor could I impute this to humanity, but to an inquisitive disposition to learn what was likely to be the patient's fate, and to ask improper questions of those about him, or of the doctor himself, were he weak enough to answer them. In this case, his answer would be sure to come back to the patient, and if unfavourable, greatly magnified; so strong is the inclination which some men feel to spread terror, even at the risk of another's life.

Sir John, not having practiced in the country, was not immediately struck with the force of my reasoning, till I told him what had happened to a family of his own name who lived near Edinburgh, who had nearly all perished in a fever. The family consisted of a father and mother, with nine or ten children, most of them grown up and in place. The mother was seized with a fever of the putrid kind, and the children came in turns to nurse her. They all caught the fever: some died; and others narrowly escaped with their lives. The evil did not end there. They carried the fever into the families where they lived, and spread the infection far and wide. This I have often known to happen in the country, and would advise masters and mistresses never to suffer their servants to act as nurses or attendants on the sick, even though the latter should be their nearest relations. They had much better hire nurses, than allow their servants to act in that dangerous capacity.

CHAP. XI.

AFFECTIONS OF THE MIND.

Mental affections have great influence both in the cause and cure of diseases. How the mind affects the body, will, in all probability, ever remain a secret. It is sufficient for us to know, that there is established a reciprocal influence between the mental and

corporeal parts; and that whatever injures the one, disorders the other.

ANGER.

The passion of *anger* ruffles the mind, distorts the countenance, hurries on the circulation of the blood, and disorders the whole vital and animal functions. It often occasions fevers, and other acute diseases; and sometimes even sudden death. This passion is peculiarly hurtful to the delicate, and those of weak nerves. I have known such persons frequently lose their lives by a violent fit of anger, and would advise them to guard against the excess of this passion with the utmost care.

It is not, indeed, always in our power to prevent being angry; but we may surely avoid harbouring resentment in our breast. Resentment preys upon the mind, and occasions the most obstinate chronical disorders, which gradually waste the constitution. Nothing shows true greatness of mind more than to forgive injuries; it promotes the peace of society, and greatly conduces to our own ease, health, and felicity.

Such as value health should avoid violent gusts of anger, as they would the most deadly poison. Neither ought they to indulge resentment, but to endeavour at all times to keep their minds calm and serene. Nothing tends so much to the health of the body as a constant tranquillity of mind.

FEAR.

The influence of *fear*, both in occasioning and aggravating diseases, is very great. No man ought to be blamed for a decent concern about life; but too great a desire to preserve it, is often the cause of losing it. Fear and anxiety, by depressing the spirits, not only dispose us to diseases, but often render those diseases fatal which an undaunted mind would overcome.

Sudden fear has generally violent effects. Epileptic fits, and other convulsive disorders, are often occasioned by it. Hence the danger of that practice, so common among young people, of frightening one another. Many have lost their lives, and others have been rendered miserable by frolics of this kind. It is dangerous to tamper with the human passions. The mind may easily be thrown into such disorder as never again to act with regularity.

THE EFFECTS OF FEAR ON CHILD-BED WOMEN.

But the gradual effects of fear prove most hurtful. The constant dread of some future evil, by dwelling upon the mind, often occasions the very evil itself. Hence it comes to pass, that so many die of those very diseases of which they long had a dread, or which had been impressed on their minds by some accident, or foolish prediction. This, for example, is often the case with women in child-bed. Many of those who die in that situation, are impressed with the notion of their death, a long time before it hap-

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make a merit of indulging in grief, and when misfortunes happen, they obstinately refuse all consolation, till the mind, overwhelmed with melancholy, sinks under the load. Such conduct is not only destructive to health, but inconsistent with reason, religion, and common sense.

Change of ideas is as necessary for health as change of posture. When the mind dwells long upon one subject, especially of a disagreeable nature, it hurts the whole functions of the body. Hence grief, indulged, spoils the digestion and destroys the appetite; by which means the spirits are depressed, the nerves relaxed, the bowels inflated with wind, and the humours, for want of fresh supplies of chyle, vitiated. Thus many an excellent constitution has been ruined by a family misfortune, or any thing that occasions excessive grief.

It is utterly impossible that any person of a dejected mind should enjoy health. Life may, indeed, be dragged out for a few years; but whoever would live to a good old age, must be good-humoured and cheerful. This, indeed, is not altogether in our own power; yet our temper of mind, as well as our actions, depend greatly upon ourselves. We can either associate with cheerful or melancholy companions, mingle in the amusements and offices of life, or sit still and brood over our calamities as we choose. These, and many such things, are certainly in our power, and from these the mind generally takes its cast.

The variety of scenes which present themselves to the senses, were certainly designed to prevent our attention from being too long fixed upon any one object. Nature abounds with variety, and the mind, unless fixed down by habit, delights in contemplating new objects. This at once points out the method of relieving the mind in distress. Turn the attention frequently to new objects. Examine them for some time. When the mind begins to recoil, shift the scene. By this means a constant succession of new ideas may be kept up, till the disagreeable ones entirely disappear. Thus, travelling, the study of any art or science, reading or writing on such subjects as deeply engage the attention, will sooner expel grief than the most sprightly amusements.

It has already been observed, that the body cannot be healthy unless it be exercised; neither can the mind. Indolence nourishes grief. When the mind has nothing else to think of but calamities, no wonder that it dwells there. Few people who pursue business with attention are hurt by grief. Instead, therefore, of abstracting ourselves from the world or business when misfortunes happen, we ought to engage in it with more than usual attention, to discharge with double diligence the functions of our station, and to mix with friends of a cheerful and social temper.

Innocent amusements are by no means to be neglected. These, by leading the mind insensibly to the contemplation of agreeable objects, help to dispel the gloom which misfortunes cast over it. They make time seem less tedious, and have many other happy effects.

Some persons, when overwhelmed with grief, betake themselves to drinking. This is making the cure worse than the disease. It seldom fails to end in the ruin of fortune, character, and constitution.

LOVE.

Love is perhaps the strongest of all the passions. At least when it becomes violent, it is less subject to the control either of the understanding or will, than any of the rest. Fear, anger, and several other passions, are necessary for the preservation of the individual, but love is necessary for the continuation of the species itself: it was therefore proper that this passion should be deeply rooted in the human breast.

Though love be a strong passion it is seldom so rapid in its progress as several of the others. Few persons fall desperately in love all at once. We would therefore advise every one, before he tampers with this passion, to consider well the probability of his being able to obtain the object of his wishes. When that is not likely, he should avoid every occasion of increasing it. He ought immediately to flee the company of the beloved object; to apply his mind attentively to business or study; to take every kind of amusement; and above all, to endeavour, if possible, to find another object which may engage his affections, and which it may be in his power to obtain.

There is no passion with which people are so apt to tamper as love, although none is more dangerous. Some men make love for amusement, others from mere vanity, or on purpose to show their consequence with the fair.

This is perhaps the greatest piece of cruelty which any one can be guilty of. What we eagerly wish for, we easily credit. Hence the too credulous fair are often betrayed into a situation which is truly deplorable, before they are able to discover that the pretended lover was only in jest. But there is no jesting with this passion. When love has got to a certain height, it admits of no other cure but the possession of its object, which in this case ought always, if possible, to be obtained.

RELIGIOUS MELANCHOLY.

Many persons of a religious turn of mind behave as if they thought it a crime to be cheerful. They imagine the whole of religion consists in certain mortifications, or denying themselves the smallest indulgence, even in the most innocent amusements. A perpetual gloom hangs over their countenances, while the deepest melancholy preys upon their minds. At length the fairest prospects vanish, every thing puts on a dismal appearance, and those very objects which ought to give delight, afford nothing but disgust. Life itself becomes a burden, and the unhappy wretch, persuaded that no evil can equal what he feels, often puts an end to his miserable existence.

It is great pity that ever religion should be so far perverted, as to become the cause of those very evils which it was designed to cure. Nothing can be better calculated than *True religion* to raise and support the mind of its votaries under every affliction that can befal them. It teaches that even the sufferings of this life are preparatory to the happiness of the next; and that all who persist in a course of virtue shall at length arrive at complete felicity.

Persons whose business it is to recommend religion to others, should

beware of dwelling too much on gloomy subjects. That peace and tranquillity of mind, which true religion is calculated to inspire, is a more powerful argument in its favour, than all the terrors that can be uttered. Terror may indeed deter men from outward acts of wickedness, but can never inspire them with that love of God, and real goodness of heart, in which alone true religion consists.

To conclude; the best way to counteract the violence of any passion, is to keep the mind closely engaged in some useful pursuit.

I have often heard that the late Lord KAIMES, when he saw any literary friend sinking under the pressure of melancholy, or some other corroding passion, always gave this advice in a few emphatical words, "Write a book;" which he believed to be an infallible remedy. I also knew the author of a very beautiful elegy cured of his grief for a wife, whom he tenderly loved, by studying how to express the greatness of his loss, and the pungency of his sorrows in the most plaintive and affecting strains. Indeed, the earnest direction of our thoughts to some important object is, as I before hinted, the surest method of subduing passions which may stubbornly resist the control of reason.

CHAP. XII.

THE NATURAL EVACUATIONS.

THE principal evacuations from the human body are those by *stool*, *urine*, and *insensible perspiration*. None of these can be long obstructed without impairing the health. When that which ought to be thrown out of the body is too long retained, it not only occasions a *plethora*, or too great fulness of the vessels, but acquires qualities which are hurtful to the health, as acrimony, putrescence, &c.

THE FÆCAL EVACUATION, &c.

FEW things conduce more to health than keeping the body regular. When the *fæces* lie too long in the bowels, they vitiate the humours; and when they are too soon discharged, the body is not sufficiently nourished. A medium is therefore to be desired which can only be obtained by regularity in diet, sleep, and exercise. Whenever the body is not regular, there is reason to suspect a fault in one or other of these.

Persons who eat and drink at irregular hours, and who eat various kinds of food, and drink of several different liquors at every meal, have no reason to expect either that their digestion will be good, or discharges regular. Irregularity in eating and drinking disturbs every part of the animal economy, and never fails to occasion diseases. Either too much or too little food will have this effect. The former, indeed, generally occasions looseness, and the latter costiveness; but both have a tendency to hurt the health.

It would be difficult to ascertain the exact number of stools which may be consistent with health, as these differ in the different periods of life, in different constitutions, and even in the same constitution under a different regimen of diet, exercise, &c. It is, however, generally allowed, that one stool a-day is sufficient for an adult, and that more or less is hurtful. But this, like most general rules, admits of many exceptions. I have known persons in perfect health who did not go to stool above once a week.* Such a degree of costiveness, however, is not safe; though the person who labours under it may for some time enjoy tolerable health, yet at length it may occasion diseases.

One method of procuring a stool every day is to rise betimes, and go abroad in the open air. Not only the posture in bed is unfavourable to regular stools, but also the warmth. This, by promoting perspiration, lessens all the other discharges.

The method recommended for this purpose, by Mr. Locke, is likewise very proper, *viz. to solicit nature, by going regularly to stool every morning whether one has a call or not.* Habits of this kind may be acquired, which will in time become natural.

Persons who have frequent recourse to medicines for preventing costiveness seldom fail to ruin their constitution. Purging medicines frequently repeated weaken the bowels, hurt the digestion, and every dose makes way for another, till at length they become as necessary as daily bread. Those who are troubled with costiveness ought rather, if possible, to remove it by diet than drugs. They should likewise go thinly clothed, and avoid every thing of an astringent or of an heating nature. The diet and other regimen necessary in this case will be found under the article *Costiveness*, where this state of the bowels is treated as a disease.

Such persons as are troubled with an habitual looseness ought likewise to suit their diet to the nature of their complaint. They should use food which braces and strengthens the bowels, and which is rather of an astringent quality, as wheat-bread made of the finest flour, cheese, eggs, rice boiled in milk, &c. Their drink should be red port, claret, brandy and water, in which toasted bread has been boiled, and such like.

As an habitual looseness is often owing to an obstructed perspiration, persons affected with it ought to keep their feet warm, to wear flannel next their skin, and take every other method to promote the perspiration. Further directions with regard to the treatment of this complaint will be found under the article *Looseness*.

URINE.

So many things tend to change both the quantity and appearances of the urine, that it is very difficult to lay down any determined rules for judging of either.† Dr. Cheyne says, the urine

* Some persons have told me that they did not go to stool above once a month.

† It has long been an observation among physicians, that the appearances of the urine are very uncertain, and very little to be depended on. No one will be surprised at this, who considers how many ways it may be affected, and, consequently, have its appearance altered. The passions, the state of the atmosphere, the quantity and quality of the food, the exercise, the clothing, the state of the other evacuations, and num-

ought to be equal to three-fourths of the liquid part of our aliment. But suppose any one were to take the trouble of measuring both, he would find that every thing which altered the degree of perspiration would alter this proportion, and likewise that different kinds of aliment would afford very different quantities of urine. Though for these, and other reasons, no rule can be given for judging the precise quantity of urine which ought to be discharged, yet a person of common sense will seldom be at a loss to know when it is in either extreme.

As a free discharge of urine not only prevents but actually cures many diseases, it ought by all means to be promoted; and every thing that may obstruct it should be carefully avoided. Both the secretion and discharge of urine are lessened by a sedentary life, sleeping on beds that are too soft and warm, food of a dry and heating quality, liquors which are astringent and heating, as red port, claret, and such like. Those who have reason to suspect that their urine is in too small quantity, or who have any symptoms of the gravel, ought not only to avoid these things, but whatever else they find has a tendency to lessen the quantity of their urine.

When the urine is too long retained, it is not only resorbed, or taken up again into the mass of fluids, but by stagnating in the bladder it becomes thicker, the more watery parts flying off first, and the more gross and earthy remaining behind. By the constant tendency which these have to concrete, the formation of stones and gravel in the bladder is promoted. Hence it comes to pass that indolent and sedentary people are much more liable to these diseases than persons of a more active life.

Many persons have lost their lives, and others have brought on very tedious, and even incurable disorders, by retaining their urine too long, from a false delicacy. When the bladder has been overdistended, it often loses its power of action altogether, or becomes paralytic, by which means it is rendered unable either to retain the urine, or expel it properly. The calls of nature ought never to be postponed. Delicacy is doubtless a virtue, but that can never be reckoned true delicacy which induces any one to risk his health, or hazard his life.

But the urine may be in too great, as well as too small a quantity. This may be occasioned by drinking large quantities of weak watery liquors, by the excessive use of alkaline salts, or any thing that stimulates the kidneys, dilutes the blood, &c. This disorder very soon weakens the body, and induces a consumption. It is difficult to cure, but may be mitigated by strengthening diet and astringent medicines, such as are recommended under the article Diabetes, or excessive discharge of urine.

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berless other causes, are sufficient to induce a change either in the quantity or appearance of the urine. Any one who attends to this will be astonished at the impudence of those daring quacks, who pretend to find out diseases, and prescribe to patients, from the bare inspection of their urine. These impostors, however, are very common all over Britain, and, by the amazing credulity of the populace, many of them amass considerable fortunes. Of all the medical prejudices which prevail in this country, that in favour of *urine doctors* is the strongest. The common people have still an unlimited faith in their skill, although it has been demonstrated that no one of them is able to distinguish the urine of a horse, or any other animal, from that of a man.

THE PERSPIRATION.

INSENSIBLE perspiration is generally reckoned the greatest of all the discharges from the human body.* It is of so great importance to health, that few diseases attack us while it goes properly on; but when it is obstructed, the whole frame is soon disordered. This discharge, however, being less perceptible than any of the rest, is, consequently, less attended to. Hence it is that acute fevers, rheumatisms, agues, &c. often proceed from obstructed perspiration, before we are aware of its having taken place.

On examining patients, we find most of them impute their diseases either to violent colds which they had caught, or to slight ones which had been neglected. For this reason, instead of a critical inquiry into the nature of the perspiration, its difference in different seasons, climates, constitutions, &c. we shall endeavour to point out the causes which most commonly obstruct it, and to show how far they may be either avoided, or have their influence counteracted by timely care. The want of a due attention to these, costs Britain annually some thousands of useful lives.

CAUSES OF OBSTRUCTED PERSPIRATION, &c.

ONE of the most common causes of obstructed perspiration,† or catching cold, in this country, is the changeableness of the weather, or state of the atmosphere. There is no place where such changes happen more frequently than in Great Britain. With us the degrees of heat and cold are not only very different in the different seasons of the year, but often change almost from one extreme to another in a few days, and sometimes even in the course of one day. That such changes must affect the state of the perspiration is obvious to every one.

The best method of fortifying the body against the changes of the weather is, to be abroad every day. Those who keep most within doors, are most liable to catch cold. Such persons generally render themselves so delicate, as to feel even the slightest

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* Sanctorius, an Italian physician, was the first that directed the attention of the faculty to the cutaneous and pulmonary transpiration, which he proved to exceed the other secretions considerably in weight; and he maintained that this function must have a considerable influence on the system, and was deserving of great consideration in the treatment of diseases. There is, doubtless, much of truth in this general observation; but in its application to practice, he appears to have gone to an extravagant length, and to have considerably contributed to prolong the humoral pathology, which referred all diseases to a vitiated state of the fluids, which is now well known to be the effect instead of the cause. ED.

† From the time of Sanctorius, colds, coughs, fevers, and other diseases, have been attributed, by many, to the suppression of perspiration, altnough there was no direct experiment to prove it. That this may sometimes act as a cause there can be little doubt, but not so frequently as has been imagined; for we see people perspiring sometimes a great deal, at other times not at all, and without any bad effect. A man, in fine, enjoys as good health in winter as in summer; in cold as in hot countries; and, besides that perspiration is carried on to a great extent by the lungs, nature has also taken care to guard against obstructed perspiration, by making it a vicarious secretion with the urine; for when the former is increased the latter is diminished, and *vice versa*. The matter of perspiration, nevertheless, appears to be useless to the human frame, and perhaps contains materials that might prove hurtful if retained; hence, when obstructed, it may produce some complaints and aggravate others; although many of the diseases attributed to retained perspiration arise from mere torpor of the skin; and the effect is here taken for the cause. See *Diaphoretics, Cold Bath*, &c. ED.

changes in the atmosphere, and by their pains, coughs, and oppressions of the breast, &c. they become a kind of living barometers.

WET CLOTHES.

Wet clothes not only by their coldness obstruct the perspiration, but their moisture, by being absorbed, or taken up into the body, greatly increases the danger. The most robust constitution is not proof against the danger arising from wet clothes; they daily occasion fevers, rheumatisms, and other fatal disorders, even in the young and healthy.

It is impossible for people who go frequently abroad to avoid sometimes being wet. But the danger might generally be lessened, if not wholly prevented, by changing their clothes soon; when this cannot be done, they should keep in motion till they be dry. So far are many from taking this precaution, that they often sit or lie down in the fields with their clothes wet, and frequently sleep even whole nights in this condition. The frequent instances which we have of the fatal effects of this conduct, ought certainly to deter all from being guilty of it.

WET FEET.

Wet feet often occasion fatal diseases. The colic, inflammations of the breast and of the bowels, the iliac passion, *cholera morbus*, &c. are often occasioned by wet feet. Habit will, no doubt, render this less dangerous; but it ought as far as possible to be avoided. The delicate, and those who are not accustomed to have their clothes or feet wet, should be peculiarly careful in this respect.

NIGHT AIR.

The perspiration is often obstructed by night air; even in summer this ought to be avoided. The dews which fall plentifully after the hottest day, make the night more dangerous than when the weather is cool. Hence in warm countries, the evening dews are more hurtful than where the climate is more temperate.

It is very agreeable after a warm day to be abroad in a cool evening; but this is a pleasure to be avoided by all who value their health. The effects of evening dews are gradual, indeed, and almost imperceptible; but they are not the less to be dreaded: we would therefore advise travellers, labourers, and all who are much heated by day, carefully to avoid them. When the perspiration has been great, these become dangerous in proportion. By not attending to this, in flat marshy countries, where the exhalations and dews are copious, labourers are often seized with intermitting fevers, quinseys, and other dangerous diseases.

DAMP BEDS.

Beds become damp, either from their not being used, standing in damp houses, or in rooms without fire, or from the linen not being dry when laid on the bed. Nothing is more to be dreaded by

travellers than damp beds, which are very common in all places where fuel is scarce. When a traveller, cold and wet, arrives at an inn, he may, by means of a good fire, warm diluting liquor, and a dry bed, have the perspiration restored; but if he be put into a cold room, and laid in a damp bed, it will be more obstructed, and the worst consequences will ensue. Travellers should avoid inns which are noted for damp beds, as they would a house infected with the plague, as no man, however robust, is proof against the danger arising from them.

But inns are not the only places where damp beds are to be met with. Beds kept in private families for the reception of strangers are often equally dangerous. All kinds of linen and bedding, when not frequently used, become damp. How then is it possible that beds which are not slept in above two or three times a-year, should be safe? Nothing is more common than to hear people complain of having caught cold by changing their bed. The reason is obvious: were they careful never to sleep in a bed but what was frequently used, they would seldom find any ill consequences from a change.

Nothing is more to be dreaded by a delicate person when on a visit, than being laid in a bed which is kept on purpose for strangers. That ill-judged piece of complaisance becomes a real injury. All the bad consequences from this quarter might easily be prevented in private families, by causing their servants to sleep in the spare beds, and resign them to strangers when they come. In inns, where the beds are used almost every night, nothing else is necessary than to keep the rooms well seasoned by frequent fires, and the linen dry.

That baneful custom, said to be practised in many inns, of damping sheets, and pressing them, in order to save washing, and afterwards laying them on the beds, ought, when discovered, to be punished with the utmost severity. It is really a species of murder, and will often prove as fatal as poison or gun-shot. Indeed no linen, especially if it has been washed in winter, ought to be used till it has been exposed for some time to the fire; nor is this operation less necessary for linen washed in summer, provided it has lain for any length of time. This caution is the more needful, as gentlemen are often exceedingly attentive to what they eat or drink at an inn, yet pay no regard to a circumstance of much more importance.*

DAMP HOUSES.

Damp houses frequently produce the like ill consequences: for this reason those who build should be careful to choose a dry situation. A house which stands on a damp marshy soil or deep clay, will never be thoroughly dry. All houses, unless where the ground is exceedingly dry, should have the first floor a little raised. Servants and others, who are obliged to live in cellars and sunk stories, seldom continue long in health: masters ought surely to pay

* If a person suspect that his bed is damp, the simple precaution of taking off the sheets and lying in the blankets, with all, or most of his clothes on, will prevent all the danger. I have practised this for many years, and never have been hurt by damp beds, though no constitution, without care, is proof against their baneful influence.

some regard to the health of their servants, as well as to their own.

Nothing is more common than for people, merely to avoid some trifling inconveniency, to hazard their lives by inhabiting a house almost as soon as the masons, plasterers, &c. have done with it; such houses are not only dangerous from their dampness, but likewise from the smell of lime, paint, &c. The asthmas, consumptions, and other diseases of the lungs, so incident to people who work among these articles, are sufficient proofs of their being unwholesome.

Rooms are often rendered damp by an unseasonable piece of cleanliness; I mean the pernicious custom of washing them immediately before company is put into them. Most people catch cold if they sit but a very short time in a room that has been lately washed; the delicate ought carefully to avoid such a situation, and even the robust are not always proof against its influence.*

SUDDEN TRANSITIONS FROM HEAT TO COLD.

THE perspiration is commonly obstructed by SUDDEN TRANSITIONS from heat to cold. Colds are seldom caught, unless when people have been too much heated. Heat rarifies the blood, quickens the circulation, and increases the perspiration; but when these are suddenly checked, the consequences must be bad. It is, indeed, impossible for labourers not to be too hot upon some occasions; but it is generally in their power to let themselves cool gradually, to put on their clothes when they leave off work, to make choice of a dry place to rest themselves in, and to avoid sleeping in the open fields. These easy rules, if observed, would often prevent fevers and other fatal disorders.

It is very common for people, when hot, to drink freely of cold water, or small liquors. This conduct is extremely dangerous. Thirst, indeed, is hard to bear, and the inclination to gratify that appetite frequently gets the better of reason, and makes us do what our judgment disapproves. Every peasant, however, knows, if his horse be permitted to drink his belly-full of cold water after violent exercise, and be immediately put into the stable, or suffered to remain at rest, that it will kill him. This they take the utmost care to prevent. It were well if they were equally attentive to their own safety.

Thirst may be quenched many ways without swallowing large quantities of cold liquor. The fields afford variety of acid fruits and plants, the very chewing of which would abate thirst. Water kept in the mouth for some time, and spit out again, if frequently repeated, will have the same effect. If a bit of bread be eaten along with a few mouthfuls of water, it will both quench thirst more effectually, and make the danger less. When a person is extremely hot, a mouthful of brandy, or other spirits, if it can be obtained, ought to be preferred to any thing else. But if any one has been

* People imagine if a good fire is made in a room after it has been washed, that there is no danger from sitting in it; but they must give me leave to say that this increases the danger. The evaporation excited by the fire generates cold, and renders the damp more active.

so foolish, when hot, as to drink freely of cold liquor, he ought to continue his exercise at least till what he drank be thoroughly warmed upon his stomach.

It would be tedious to enumerate all the bad effects which flow from drinking cold liquors when the body is hot. Sometimes this has occasioned immediate death. Hoarseness, quinseys, and fevers of various kinds, are its common consequences. Neither is it safe when warm to eat freely of raw fruits, salads or the like. These, indeed, have not so sudden an effect upon the body as cold liquors, but they are notwithstanding dangerous, and ought to be avoided.

Sitting in a warm room, and drinking hot liquors till the pores are quite open, and immediately going into the cold air, is extremely dangerous. Colds, coughs, and inflammations of the breast, are the usual consequences of this conduct; yet nothing is more common than for people, after they have drunk warm liquors for several hours, to walk or ride a number of miles in the coldest night, or to ramble about in the streets.*

People are very apt, when a room is hot, to throw open a window, and to sit near it. This is a most dangerous practice. Any person had better sit without doors than in such a situation, as the current of air is directed against one particular part of the body. Inflammatory fevers, quinseys, and consumptions have often been occasioned by sitting or standing thinly clothed near an open window. Nor is sleeping with open windows less to be dreaded. That ought never to be done, even in the hottest season, unless the window is at a distance. I have known mechanics frequently contract fatal diseases, by working stripped at an open window, and would advise all of them to beware of such a practice.†

Few things expose people more to catch cold than keeping their own houses too warm: such persons may be said to live in a sort of hot-houses; they can hardly stir abroad to visit a neighbour but at the hazard of their lives. Were there no other reason for keeping houses moderately cool, that alone is sufficient; but no house that is too hot can be wholesome; heat destroys the spring and elasticity of the air, and renders it less fit for expanding the lungs, and the other purposes of respiration. Hence it is that consumptions and other diseases of the lungs prove so fatal to people who work in forges, glass-houses, and the like.

Some are even so fool-hardy as to plunge themselves, when hot, in cold water.‡ Not only fevers, but madness itself, has frequent-

* The tap-rooms in London and other great towns, where such numbers of people spend their evenings, are highly pernicious. The breath of a number of people crowded into a low apartment, with the addition of fires, candles, the smoke of tobacco, and the fumes of hot liquor, &c. must not only render it hurtful to continue in such places, but dangerous to go out of them into a cold and chilly atmosphere.

† Although this long uncontradicted opinion, which daily observation confirms, has also been contradicted by Sir Arthur Clarke, the analogies are too wide to bear comparison. It will, we believe, be universally admitted that a current of air pressing upon an overheated body, although it might not prove "*inevitably fatal*," is neither consistent with safety nor prudence, while that body is in a passive state; and in an active one it is better to be removed some distance from a voluminous rush of air, which would be the means of keeping perspiration in check that was labouring to be set free, thereby counteracting the effects of exertion.

‡ A modern writer (Sir Arthur Clarke) entertains, we rather suspect, an untenable opinion on this particular subject; nor do we conceive in what manner sudden external transitions should be attended with less danger than such as are internally applied.

ly been the effect of this conduct. Indeed it looks too like the action of a madman to deserve a serious consideration.

The result of all these observations is, that every one ought to avoid, with the utmost attention, all sudden transitions from heat to cold, and to keep the body in as uniform a temperature as possible; or where that cannot be done, to take care, when heated, to let it cool gradually.

People may imagine that too strict an attention to these things would tend to render them delicate. So far, however, is this from being my design, that the very first rule proposed for preventing colds is, to harden the body, by inuring it daily to the open air.

I shall put an end to what relates to this part of my subject, by giving an abstract of the justly celebrated advice of Celsus, with respect to the preservation of health: "A man," says he, "who is blessed with good health, should confine himself to no "particular rules either with respect to regimen or medicine. He "ought frequently to diversify his manner of living; to be some-"times in town, sometimes in the country; to hunt, sail, indulge "himself in rest, but more frequently to use exercise. He ought "to refuse no kind of food that is commonly used, but sometimes "to eat more and sometimes less; sometimes to make one at an en-"tertainment, and sometimes to forbear it; to make rather two "meals a-day than one, and always to eat heartily, provided he "can digest it. He ought neither too eagerly to pursue, nor too "scrupulously to avoid intercourse with the fair sex: pleasures of "this kind, rarely indulged, render the body alert and active; but "when too frequently repeated, weak and languid. He should "be careful in time of health not to destroy, by excesses of any "kind, that vigour of constitution which should support him un-"der sickness."

This plain, yet elegant and judicious summary of the most useful maxims of health, confirms the justness of my former remark, that enlightened Medicine breathes the true spirit of liberal indulgence, laying down no rules but such as a man of sense would cheerfully

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"It has been very commonly supposed," observes Sir Arthur, "even by medical men, that immersion in the cold-bath, when the body was considerably heated with exercise or other exertion, is a dangerous practice; and, accordingly, it is a general custom with bathers who find themselves overheated, to wait till they become cool, before they plunge into the bath. This opinion and practice has been ably controverted by the late Dr. Currie, who has shown, both from theory and experience, that the opinion is erroneous, and the practice injudicious. This is so true, that for some years he has directed infirm persons to use a degree of exercise before immersion, as may produce an increased action of the vascular, with some increase of heat, and thus secure a force of re-action under the shock, which otherwise might not always take place." We think Sir Arthur has brought Dr. Currie forward rather untimely; for it is evident the latter alludes to infirm persons, convalescents, with whom almost invariably the heat of the body, accompanied with a sense of chillness, is below the natural standard: it is judicious, therefore, enough that such people should use *a d. gree* of exercise to enable them to resist the shock of the cold-bath, and to secure a re-action under it, which otherwise they could not withstand. This practice, however, applies equally to persons in health, whom we would caution never to use the cold-bath at a time when a cold sensation pervades the whole body, any more than to plunge into it at a time when the body is overheated; although both of these conditions may admit of being considerably regulated by the feelings of the individual. "The popular opinion, therefore," says Sir Arthur Clarke, upon the preceding grounds, "that it is safest to go perfectly cool into the water is an *unfounded error* productive of injurious consequences." Practice and experience, with all deference to such an opinion, have proved the reverse. Ed.

follow and forbidding nothing but what is incompatible with real happiness. Here the votaries of fashion and folly may learn to correct their own mistaken ideas of enjoyment; the epicure may acquire a relish for rational gratification; and the man of pleasure may be taught the economy of love.

PART II.

CHAP. I.

THE KNOWLEDGE AND CURE OF DISEASES.

The cure of diseases does not depend so much upon scientific principles as many imagine. It is chiefly the result of experience and observation. By attending the sick, and carefully observing the various occurrences in diseases, a great degree of accuracy may be acquired, both in distinguishing their symptoms, and in the application of medicines. Hence sensible nurses, and other persons who wait upon the sick, often foresee the patient's fate sooner than many who have been bred to physic.* We do not, however, mean to insinuate that a medical education is of no use: it is doubtless of the greatest importance, but it never can supply the place of observation and experience.

Definition of diseases, &c.—Every disease may be considered as an assemblage of symptoms, and must be distinguished by those which are most obvious and permanent. Instead, therefore, of giving a classical arrangement of diseases, according to the systematic method, it will be more suitable, in a performance of this nature, to give a full and accurate description of each particular disease as it occurs; and, where any of the symptoms of one disease have a near resemblance to those of another,† to take notice of that circumstance, and at the same time to point out the peculiar or characteristic symptoms by which it may be distinguished. By a due attention to these, the investigation of diseases will be found to be a less difficult matter than most people would at first be ready to imagine.

A proper attention to the patient's age, sex, temper of mind, constitution, and manner of life, will likewise greatly assist, both in the investigation and treatment of diseases.

In childhood the fibres are lax and soft, the nerves extremely irritable, and the fluids thin: whereas in old age the fibres are rigid, the nerves become almost insensible, and many of the vessels

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* Physicians express this prescience by the term *Prognosis*, or the art of predicting the event of diseases from particular symptoms.

† Physicians express these symptomatic characters by the word *Diagnosis*; viz. the signs by which one disease may be distinguished from another disease. Hence those symptoms which distinguish such affections are termed *diagnostic signs*.

imperviable. These and other peculiarities render the diseases of the young and aged very different, and of course they must require a different method of treatment. See DISEASES OF CHILDREN.

Females are liable to many diseases which do not afflict the other sex: besides, the nervous system being more irritable in them than in men, their diseases require to be treated with greater caution. They are less able to bear large evacuations; and all stimulating medicines ought to be administered to them with a sparing hand. See DISEASES OF FEMALES.

Particular constitutions not only dispose persons to peculiar diseases, but likewise render it necessary to treat these diseases in a peculiar manner. A delicate person, for example, with weak nerves, who lives mostly within doors, must not be treated, under any disease, precisely in the same manner as one who is hardy and robust, and one who is much exposed to the open air.

The temper and mind ought to be carefully attended to in diseases. Fear, anxiety, and a fretful temper both occasion and aggravate diseases. In vain do we apply medicines to the body to remove maladies which proceed from the mind. When that is affected, the best medicine is to soothe the passions, to divert the mind from anxious thought, and to keep the patient as easy and cheerful as possible. See AFFECTIONS OF THE MIND.

Attention ought likewise to be paid to the climate, or place where the patient lives, the air he breathes, his diet, &c. Such as live in low marshy situations are subject to many diseases which are unknown to the inhabitants of high countries. Those who breathe the impure air of cities have many maladies to which the more happy rustics are entire strangers. Persons who feed grossly, and indulge in strong liquors, are liable to diseases which do not affect the temperate and abstemious, &c.

It has already been observed, that the different occupations and situations in life dispose men to peculiar diseases. (See p. 47.) It is therefore necessary to enquire into the patient's occupation, manner of life, &c. This will not only assist us in finding out the disease, but will likewise direct us in the treatment of it. It would be very imprudent to treat the laborious and the sedentary precisely in the same manner, even supposing them to labour under the same disease.

It will likewise be proper to enquire, whether the disease be constitutional or accidental; whether it has been of long or short duration; whether it proceeds from any great and sudden alteration in the diet, manner of life, &c. The state of the patient's body, and of the other evacuations, ought also to be enquired into; and likewise whether he can with ease perform all the vital and animal functions, as breathing, digestion, &c.

Lastly, it will be proper to enquire to what diseases the patient has formerly been liable, and what medicines were most beneficial to him; if he has a strong aversion to any particular drug, &c.

As many of the indications of cure may be answered by diet alone, it is always the first thing to be attended to in the treatment of diseases. Those who know no better, imagine that every thing which goes by the name of a medicine possesses some won-

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any medicines yet known. In diseases which proceed from a relaxed state of the solids, the cold bath, and other parts of the gymnastic regimen, will be found equally beneficial. See EXERCISE, p. 66.

Few things are of greater importance in the cure of diseases than cleanliness. When a patient is suffered to lie in dirty clothes, whatever perspires from his body is again resorbed, or taken up into it, which serves to nourish the disease and increase the danger. Many diseases may be cured by cleanliness alone; most of them may be mitigated by it, and in all of them it is highly necessary both for the patient and those who attend him. See CLEANLINESS, p. 78.

Many other observations, were it necessary, might be adduced to prove the importance of a proper regimen in diseases. Regimen will often cure diseases without medicine, but medicine will seldom succeed where a proper regimen is neglected. For this reason, in the treatment of diseases, we have always given the first place to regimen. Those who are ignorant of medicine may confine themselves to it only. For others who have more knowledge, we have recommended some of the most simple but approved forms of medicine in every disease. These, however, are never to be administered but by people of better understanding; nor even by them without the greatest precaution.

The clearness and simplicity with which I took care to express myself on these points, would, I thought, have prevented the possibility of any misrepresentation. Yet I find that a certain low class of self-appointed practitioners, who call themselves of *the faculty*, take no small pains to insinuate, that my observations on the prevention and cure of diseases serve only to encourage the fatal practice of domestic quackery. This is equally inconsistent with candour and truth. The obvious tendency of all my remarks is to enlighten the minds of the people on a subject of such immediate concern as their health, and thus to guard them against the bad effects of ignorance and rashness on their own part, and of impudence and deceit on the part of others.

I should rather have expected to be blamed for teaching people to place very little reliance on the efficacy of any medicine; which was, indeed, one of the objects I had in view, for the express purpose of directing general attention to the far more assured means of preserving health, namely, AIR, CLEANLINESS, DIET, EXERCISE, and the management of the passions. Upon these subjects I enlarged with peculiar earnestness, well knowing how much easier it is to prevent disorders before-hand than to cure them afterwards.

Even in cases of actual infirmity and disease, I have intimated a wish, that those who are ignorant of physic would confine themselves to regimen only, and leave the medical treatment of their complaints to persons of better information. The remedies which I have prescribed may be entrusted to such hands with perfect safety; and if the directions I give do not operate as a check upon rashness, I know of no words strong enough to produce that effect.

CHAP. II.

GENERAL OBSERVATIONS ON FEVERS, &c.

Fevers, though the most common complaints, are those in which mankind, whether professional or laical, are those by which they are most apt to be misled. It has been well observed, that "in reality, no writer seems to have been fully satisfied with his own definition, and it is not extraordinary, therefore, that he should have seldom given satisfaction to others." This difficulty proceeds from the complexity of the symptoms that enter into the character of a fever; the contrariety of many of them to each other in different stages of it; and the occasional absence of some, that, in other instances, appear to constitute its leading features. There are also two other difficulties of no inconsiderable magnitude, which the nosologist has to contend with in laying down a clear and perspicuous survey of fevers; namely, their division or collocation, and their generic names,—a province, on which, however, it is not our intention now to discuss.

The remote cause of fever can frequently be traced; but we are too little acquainted with the nature of several of them to be able to restrict them to a specific mode of action: of the proximate cause, but very little is at present known, and will probably be long before we know much more.

The usual division of fevers is into intermittents, and continued, on account of their taking up different times in their natural duration; some being compounded of a number of paroxysms, following each other in a regular succession, at some distance of time, as happens in intermittents or agues; in others, a fresh paroxism comes in, immediately as the crisis of the former, so as hardly to leave the patient wholly free from fever, as occurs in remittents; and in others, there is such a quick succession of paroxysms, that the one comes on before there is any visible abatement of the febrile symptoms as in continued fevers.

Causes of fevers, &c.—As more than one half of mankind is said to perish by fevers, it is of importance to be acquainted with their causes. The most general causes of fevers are, *infection, rors in diet, unwholesome air, violent emotions of the mind, excess or suppression of usual evacuations, external or internal injuries, and extreme degrees of heat or cold.* As most of these have already been treated of at considerable length, and their effects shown, we shall not now resume the consideration of them, but shall only recommend it to all, as they would wish to avoid fevers and other fatal diseases, to pay the most punctual attention to these articles.

Fevers are not only the most frequent of all diseases, but they are likewise the most complex. In the most simple species of fever there is always a combination of several different symptoms. The distinguishing symptoms of fever are, *increased heat, frequency of pulse, loss of appetite, general debility, pain in the head, and a difficulty in erforming some of the vital or animal functions.* The other symp-

toms usually attendant on fevers, are nausea, thirst, anxiety, delirium, weariness, wasting of the flesh, want of sleep, or the sleep disturbed and not refreshing.

When the fever comes on gradually, the patient generally complains first of languor or listlessness, soreness of the flesh or the bones, as the country people express it, heaviness of the head, loss of appetite, sickness, with clamminess of the mouth; after some time come on excessive heat, violent thirst, restlessness, &c.

When the fever attacks suddenly, it always begins with an uneasy sensation of excessive cold, accompanied with debility and loss of appetite; frequently the cold is attended with shivering, oppression about the heart, and sickness at stomach, or vomiting.

FEVER CONSIDERED AS AN EFFORT OF NATURE, &c.—As a fever is only an effort of Nature to free herself from an offending cause,* it is the business of those who have the care of the sick to observe with diligence which way Nature points, and to endeavour to assist her operations. Our bodies are so framed, as to have a constant tendency to expel or throw off whatever is injurious to health. This is generally done by urine, sweat, stool, expectoration, vomit, or some other evacuation.

There is reason to believe, if the efforts of Nature, at the beginning of a fever, were duly attended to and promoted, it would seldom continue long; but when her attempts are either neglected or counteracted, it is no wonder if the disease prove fatal. There are daily instances of persons, who, after catching cold, have all the symptoms of a beginning fever; but by keeping warm, drinking diluting liquors, bathing their feet in warm water, &c. the symptoms in a few hours disappear, and the danger is prevented. When fevers of a putrid kind threaten, the best method of obviating their effects is by repeated vomits.

Our design is not to enter into a critical inquiry into the nature and immediate causes of fevers, but to mark their most obvious symptoms, and to point out the proper treatment of the patient with respect to his diet, drink, air, &c. in the different stages of the diseases. In these articles the inclinations of the patient will in a great measure direct our conduct.

Almost every person in a fever complains of great thirst, and calls out for drink, especially of a cooling nature. This at once

* It was the opinion of Hippocrates, that fever is an effort of nature to expel something noxious to the body either ingenerated, or introduced from without. Beholding a violent commotion in the system, followed by an evacuation from the skin and kidneys, with which the paroxysm terminated, he ascribed the commotion to a fermentation, concoction, or ebullition, by which the noxious matter was separated from the sound humours; and the evacuation to a despumation or scum, which such separation produces, or rather to the discharge of this morbid scum from the emunctories that open externally. Galen supported this hypothesis with all the learning of his day, and it is the only explanation of fever to be met with in his medical writings, through the long course of three thousand years; in fact till the time of Sydenham, who still adhered to it, and whose pages are full of the language to which it gave birth; and it was blended almost insensibly with the dialect of the chymists of the day. In itself, this doctrine, considered merely hypothetically, is not only innocent, but highly ingenious and plausible. It is in unison with several phenomena of pyretic or febrile diseases; and derives a strong collateral support from the general history of eruptive fever, in which we actually see a peccant matter, producing general commotion, multiplying itself in a ferment, and at length separated and thrown off at the surface by a direct depuration of the system. ED.

points out the use of water, and other cooling liquors. What is so likely to abate the heat, attenuate the humours, remove spasms and obstructions, promote perspiration, increase the quantity of urine, and, in short, produce every salutary effect in an ardent or inflammatory fever, as drinking plentifully of water, thin gruel, or any other weak liquor, of which water is the basis? The necessity of diluting liquors is pointed out by the dry tongue, the parched skin, and the burning heat, as well as the unquenchable thirst of the patient.

In inflammatory fevers, where the thirst is great, the following forms a grateful and cooling beverage:

Take cream of tartar half an ounce.
White sugar four ounces.
Fresh confection of orange three ounces.
Hot water three pints.

Half a pint or more may be drunk as occasion requires.

Many other cooling liquors, which are extremely grateful to patients in a fever, may be prepared from fruits, as decoctions of tamarinds, apple-tea, orange whey, and the like. Mucilaginous liquors might also be prepared from marshmallow roots, linseed, lime-tree buds, and other mild vegetables. These liquors, especially when acidulated, are highly agreeable to the patient, and should never be denied him.

SYMPTOMS OF FEVER.—At the beginning of a fever, the patient generally complains of great lassitude or weariness, and has no inclination to move. This evidently shows the propriety of keeping him easy, and if possible, in bed. Lying in bed relaxes the spasms,* abates the violence of the circulation, and gives nature an opportunity of exerting all her force to overcome the disease. Confinement to bed alone would often remove a fever at the beginning; but when the patient struggles with the disease instead of driving it off, he only fixes it the deeper, and renders it more dangerous. This observation is too often verified in travellers, who happen when on a journey to be seized with a fever. Their anxiety to get home, induces them to travel with the fever upon them; which conduct seldom fails to render it fatal.

In fevers, the mind as well as the body should be kept easy. Company is seldom agreeable to the sick. Indeed every thing that

* The hypothesis of Stahl, Hoffman, and Cullen, is founded on the doctrine of a spasm on the extremities of the living fibre. According to the more elaborate principles of this system, as improved by Cullen, the human body is a congeries of organs, regulated by the laws not of inanimate matter, but of life, and superintended by a mobile and conservative power or energy, seated in the brain, but distinct from the mind or soul, acting *wisely* but *necessarily* for the general health; correcting deviations, and supplying defects, not from a knowledge and choice of the means, but by a pre-established relation between the changes produced, and the motions required for the restoration of health; and operating, therefore, through the medium of the moving fibres, upon whose healthy or unhealthy state depends the health or unhealthiness of the general frame, which fibres he regarded with Stahl, as simple nerves, the muscular filaments being nothing more than their extremities, and by no means possessed of an independent *vis insita*. ED.

disturbs the imagination increases the disease: for which reason every person in a fever ought to be kept perfectly quiet, and neither allowed to see nor hear any thing that may in the least affect or discompose his mind.

Though the patient in a fever has the greatest inclination for drink, yet he seldom has any appetite for solid food: hence the impropriety of urging him to take victuals is evident. Much solid food in a fever is every way hurtful. It oppresses nature, and, instead of nourishing the patient, serves only to feed the disease. What food the patient takes, should be in small quantity, light, and of easy digestion. It ought to be chiefly of the vegetable kind, as panada, roasted apples, gruels, and such like.

Nothing is more desired by a patient in a fever, than fresh air. It not only removes his anxiety, but cools the blood, revives the spirits, and proves every way beneficial. Many patients are in a manner stifled to death in fevers for want of fresh air; yet such is the unaccountable infatuation of most people, that the moment they think a person in a fever, they imagine he should be kept in a close chamber, into which not one particle of fresh air must be admitted. Instead of this, there ought to be a constant stream of fresh air into a sick person's chamber, so as to keep it moderately cool. Indeed, its degree of warmth ought never to be greater than is agreeable to one in perfect health.

Nothing spoils the air of a sick person's chamber, or hurts the patient more, than a number of people breathing in it. When the blood is inflamed, or the humours in a putrid state, air that has been breathed repeatedly will greatly increase the disease. Such air not only loses its spring, and becomes unfit for the purpose of respiration, but acquires a noxious quality, which renders it in a manner poisonous to the sick.

In fevers, when the patient's spirits are low and depressed, he is not only to be supported with cordials, but every method should be taken to cheer and comfort his mind. Many, from a mistaken zeal, when they think a person in danger, instead of solacing his mind with the hopes and consolations of religion, frighten him with the views of hell and damnation. It would be unsuitable here to dwell upon the impropriety and dangerous consequences of this conduct, it often hurts the body, and there is reason to believe seldom benefits the soul.

Among common people, the very name of a fever generally suggests the necessity of bleeding. This notion seems to have taken its rise from most fevers in this country having been formerly of an inflammatory nature; but true inflammatory fevers are now seldom to be met with. Sedentary occupations, and a different manner of living, have so changed the state of diseases in Britain, that there is now hardly one fever in ten where the lancet is necessary. In most low, nervous, and putrid fevers, which are now so common, bleeding is really hurtful, as it weakens the patient, sinks his spirits, &c. We would recommend this general rule, never to bleed at the beginning of a fever, unless there be evident signs of inflammation. Bleeding is an excellent medicine when necessary, but should never be wantonly performed.

It is likewise a common notion, that sweating is always neces-

sary in the beginning of a fever. When the fever proceeds from an obstructed perspiration, this notion is not ill-founded. If the patient only lie in bed, bathe his feet and legs in warm water, and drink plentifully of warm water-gruel, or any other weak, diluting liquor, he will seldom fail to perspire freely. The warmth of the bed, and the diluting drink, will relax the universal spasm, which generally affects the skin at the beginning of a fever; it will open the pores, and promote the perspiration, by means of which the fever may often be carried off. But instead of this, the common practice is to heap clothes upon the patient, and to give him things of a hot nature, as spirits, spiceries, &c., which fire his blood, increase the spasms, and render the disease more dangerous.

In all fevers, a proper attention should be paid to the patient's longings. These are the calls of Nature, and often point out what may be of real use. Patients are not indeed to be indulged in every thing that the sickly appetite may crave; but it is generally right to let them have a little of what they eagerly desire, though it may not seem altogether proper.

When a patient is recovering from a fever, great care is necessary to prevent relapse. Many persons, by too soon imagining themselves well, have lost their lives, or contracted other diseases of an obstinate nature. As the body after a fever is weak and delicate, it is necessary to guard against catching cold. Moderate exercise in the open air will be of use, but great fatigue is by all means to be avoided; agreeable company will also have a good effect. The diet must be light, but nourishing. It should be taken frequently, but in small quantities. It is dangerous, at such a time, to eat as much as the stomach may crave.

From the great variety of fevers that afflict the human body, it is impossible to find any medicine adapted to them all, or, indeed, to all the symptoms of any one of them. Notwithstanding this, the people of England have, for half a century, been swallowing a powder said to possess wonderful virtues in the cure of fevers. Nor has the use of this powder been confined to England; it has been carried to every part of the globe; and great cures have been attributed to it, with what truth I will not pretend to say. I remember bleeding to have been as much in vogue in fevers, though now it is seldom prescribed, unless in local inflammations. But there is a fashion in physic, as well as in other things; and it is always heresy to talk against the doctrine of the day.

This fever-powder, like other quack medicines, is said to be good in a variety of complaints, and is used by some people in every disorder, real or imaginary. I knew a lady, who not only administered it to all the poor of the parish when ill, but likewise gave it to her dogs and horses; and never failed to take it daily herself, till she destroyed her constitution. Many persons look upon it as *panacea*, or universal remedy, and keep it continually by them in case of emergencies. The fatal consequences of such credulity must be often irreparable. This, at least, was the situation of an old General of my acquaintance, whom no argument could dissuade from taking the powder, till he lost the use of all his extremities.

There is not a greater solecism in language, nor a greater absurdity in real practice, than to pretend that any one medicine is of certain efficacy in fevers. The most skilful physicians that ever existed have always found it necessary to watch attentively the progress of a fever; and to adapt both the regimen and medicines to the different changes and symptoms as they occurred.

CHAP. III.

INTERMITTENT FEVERS, OR AGUES.

The generic character of an intermittent fever consists of periods or paroxysms, between each of which there is a perfect interval when no fever is present. They admit of several distinctions, as *true*, *spurious*, *perfect*, and *imperfect*.

The true and perfect intermittents which occur are;

1. The quotidian or daily—having an intermission of 24 hours.
2. Tertian, or third-day, 48 hours.
3. Quartan, or fourth-day, 72 hours.

When the return of an intermittent exceeds the latest of these times, it is called erratic or wandering. The other distinctions are of no practical utility, the means of cure being the same.

The paroxysm of an intermittent consists of three successive stages, viz. a hot, a cold, and a sweating stage.

Intermitting fevers afford the best opportunity both of observing the nature of a fever, and also the effects of medicine. No person can be at a loss to distinguish an intermitting fever from any other, and the proper medicine for it is now almost universally known.

The several kinds of intermittent fevers take their names from the period in which the fit returns, as quotidian, tertian, quartan, &c.

It appears to be generally acknowledged, that *marsh miasmata*, or the effluvia arising from stagnant water, or marshy ground, when acted upon by heat, are the most frequent exciting cause of this fever.

Exciting causes.—This is evident from their abounding in rainy seasons, and being most frequent in countries where the soil is marshy, as in Holland, the fens of Cambridgeshire, the hundreds of Essex, &c., although we are not yet sufficiently acquainted with all the circumstances which are requisite to render marsh miasmata productive of intermittents. In acknowledging, however, the influence of marsh effluvia to produce intermittents, they must not, at the same time, be considered as their universal cause, since it is found that persons residing constantly in the most healthy

part of cities, and far remote from marshes, are not unfrequently attacked by them.

Predisposing.—This disease may also be occasioned by debility, however induced, by a poor watery diet, damp houses, evening dews, lying upon the damp ground, watching, fatigue, depressing passions of the mind, &c.

When the inhabitants of a high country remove to a low one, they are generally seized with intermittent fevers, and to such the disease is most apt to prove fatal. In a word, whatever relaxes the solids, diminishes the perspiration, or obstructs the circulation in the capillary or small vessels, disposes the body to agues.

Symptoms of the cold stage.—An intermitting fever generally begins with pain of the head and loins, weariness of the limbs, coldness of the extremities, stretching, yawning, with sometimes great sickness and vomiting; to which succeed shivering and violent shaking.

Of the hot stage.—After a longer or shorter continuance of shivering, the heat of the body gradually returns; irregularly at first, and by transient flushes, soon, however, succeeded by a steady, dry, and burning heat, considerably augmenting above the natural standard. The skin which before was pale and constricted, becomes now swollen, tense, and red; and is remarkably sensible to the touch. The sensibility, diminished in the cold stages, is now preternaturally acute; pains attack the head, and flying pains are felt over various parts of the body. The pulse is quick, strong, and hard; the tongue white, the thirst is great, and the urine is high coloured.

Of the sweating stage.—A moisture is at length observed to break out upon the face and neck, which soon becomes universal and uniform. The heat falls to its ordinary standard; the pulse diminishes in frequency, and becomes full and free; the urine deposits a sediment; the bowels are no longer confined; respiration is free and full; all the functions are restored to their natural order; when, after a specific interval, the paroxysm returns, and performs the same successional evolutions.

Between the paroxysms, the patient must be supported with food that is nourishing, but light and easy of digestion, as veal or chicken broths, sago, gruel with a little wine, light puddings, and such like. His drink may be small negus, acidulated with the juice of lemons or oranges, and sometimes a little weak punch. He may likewise drink infusions of bitter herbs, as camomile, wormwood, or water-trefoil, and may now and then take a glass of small wine, in which gentian root, centaury, or some other bitter, has been infused.

As the chief intentions of cure in an ague are to brace the solids, and promote perspiration, the patient ought to take as much exercise between the fits as he can bear. If he be able to go abroad, riding on horseback, or in a carriage, will be of great service. But if he cannot bear that kind of exercise, he ought to take such as

his strength will permit. Nothing tends more to prolong an intermitting fever, than indulging a lazy indolent disposition.

Intermitting fevers, under a proper regimen, will frequently go off without medicine: and when the disease is mild, in an open dry country, there is seldom any danger from allowing it to take its course; but when the patient's strength seems to decline, or the paroxysms are so violent that his life is in danger, medicine ought immediately to be administered. This, however, should never be done till the disease be properly formed, that is to say, till the patient has had several fits of shaking and sweating.

MEDICAL TREATMENT.—1. This consists during the cold stage, in endeavouring to bring on the hot, by means of artificial warmth; putting the feet in warm water; giving mild diluent liquids; diaphoretic cordials;* opiates, &c.

2. During the hot stage, to promote perspiration, by means of cordial diaphoretics, with the means recommended in the cold stage.

The principal object, therefore, in the treatment of intermittents, is to put a period to the stage which is present, by hastening that which naturally succeeds it.

The first thing to be done in the cure of an intermitting fever, is to cleanse the stomach and bowels. This not only renders the application of other medicines more safe, but likewise more efficacious. In this disease the stomach is generally loaded with cold viscid phlegm, *(sordes,)* and frequently great quantities of bile are discharged by vomit; which plainly points out the necessity of such evacuations. Emetics are, therefore, to be administered before the patient takes any other medicine, which may be administered just before the accession of the cold fit. A dose of ipecacuanha will generally answer this purpose very well. A scruple or half a drachm of the powder will be sufficient for an adult,† and for a younger person the dose must be less in proportion. After it begins to operate, the patient ought to drink plentifully of weak camomile-tea; and it may be repeated at the distance of two or three days. Emetics not only cleanse the stomach, but increase the perspiration, and all the other secretions, which render them of

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* Take Spirits of Nitric Æther, 2 drachms.
Camphor mixture, 4 ounces.
Liquor of acetated Ammonia, 1 ounce.
Syrup of Roses, 3 drachms.
Mix: and take two table-spoonsful every fifteen minutes.

† Take Powder of Ipecacuanha, 15 grains.
Tartarised Antimony, 1 grain.
Make an Emetic powder.

or

Powder of Ipecacuanha, 15 grains.
Tartarized Antimony, 1 grain.
Spearmuch water, 1½ ounce.
Syrup of Saffron, 1 ounce.
Make an Emetic draught.

or

Take Peruvian Bark, 1 ounce.
Divide into twelve equal parts, of which take one every hour, or every second or third hour, in a small cupful of new milk, during the absence of the fever.

or

Take Peruvian Bark, 1 ounce.
Compound Cinnamon powder, ½ drachm.
Mix, and divide into twelve equal parts.

or

Take Peruvian Bark, 1 ounce.
Confection of Opium, 1 drachm.
Mix, and divide into twelve equal parts.

or

Take Peruvian Bark, 1 ounce.
Powdered Rhubarb, 2 scruples.
Mix, and divide in twelve equal parts; to be taken as above.

such importance, that they often cure intermitting fevers without the assistance of any other medicine.

Purgative medicines are likewise useful and often necessary in intermitting fevers. Emetics, however, are more suitable in this disease, and render purging less necessary; but if the patient be afraid to take a vomit, he ought in this case to cleanse the bowels by a dose or two of Epsom salts, jalap, or rhubarb, as may appear best adapted to the constitution.

Bleeding may sometimes be proper at the beginning of an intermitting fever, when excessive heat, delirium, &c. give reason to suspect an inflammation or congestion of blood in the external vessels of the head; but as the blood is seldom in an inflammatory state in intermitting fevers, this operation is rarely necessary. When frequently repeated, it tends to prolong the disease.

After proper evacuations, the patient may safely use the Peruvian bark, which may be taken in any way that is most agreeable to him. No preparation of the bark seems to answer better than the most simple form in which it can be given, viz. in powder. It may also, as required, be advantageously combined with other substances, as, confection of opium, rhubarb, cinnamon also, in any form; *e. g.* in powder, electuary, tincture, decoction, extract, &c.

Two ounces of the best Peruvian bark, finely powdered, may be divided into twenty-four doses. These may either be made into boluses, as they are used, with a little syrup of lemon, or mixed in a glass of red wine, a cup of camomile-tea, water-gruel, or any other drink that is more agreeable to the patient.*

In an ague which returns every day, one of the above doses may be taken every two hours during the interval of the fits. By this method, the patient will be able to take five or six doses between each paroxysm. In a tertian, or third day, ague, it will be sufficient to take a dose every third hour, during the interval, and in a quartan every fourth. If the patient cannot take so large a dose of the bark, he may divide each of the powders into two parts, and take one every hour, &c. For a young person, a smaller quantity of this medicine will be sufficient, and the dose must be adapted to the age, constitution, and violence of the symptoms.†

The above quantity of bark will frequently cure an ague; the patient, however, ought not to leave off taking the medicine as soon as the paroxysms are stopped, but should continue to use it till there is reason to believe the disease is entirely overcome. Most of the failures in the cure of this disease are owing to patients not continuing to use the medicine long enough. They are generally directed to take it till the fits are stopped, then to leave

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* It has lately been observed, that the red bark is more powerful than that which has for some time been in common use. Its superior efficacy seems to arise from its being of a more perfect growth than the quill-bark, and consequently more fully impregnated with the medical properties of the plant.

† In intermitting fevers of an obstinate nature, I have found it necessary to throw in the bark much faster. Indeed, the benefits arising from this medicine depend chiefly upon a large quantity of it being administered in a short time. Several ounces of bark given in a few days, will do more than as many pounds taken in the course of some weeks. When this medicine is intended either to stop a mortification, or cure an obstinate ague, it ought to be thrown in as fast as the stomach can possibly bear it. Inattention to this circumstance has hurt the reputation of one of the best medicines of which we are in possession.

it off, and begin again at some distance of time: by which means the disease gathers strength, and often returns with as much violence as before. A relapse may always be prevented by the patient's continuing to take doses of the medicine for some time after the symptoms disappear. This is both the most safe and effectual method of cure.

An ounce of gentian root, calamus aromaticus, and orange-peel, of each half an ounce, with three or four handfuls of camomile flowers, and an handful of coriander-seed, all bruised together in a mortar, may be used in form of infusion or tea. About half an handful of these ingredients may be put into a tea-pot, and an English pint of boiling water poured on them. A cup of this infusion drank three or four times a-day will greatly promote the cure. Such patients as cannot drink the watery infusion, may put two handfuls of the same ingredients into a bottle of white wine, and take a glass of it twice or thrice a-day. If patients drink freely of the above, or any other proper infusion of bitters, a smaller quantity of bark than is generally used will be sufficient to cure an intermittent.

Those who cannot swallow the bark in substance may take it in decoction or infusion. An ounce of bark in powder may be infused in a bottle of white wine for four or five days, frequently shaking the bottle, afterwards let the powder subside, and pour off the clear liquor. A wine-glass may be drank three or four times a-day, or oftener, as there is occasion. If a decoction be more agreeable, an ounce of the bark, and two drachms of snake-root bruised, with an equal quantity of salt of wormwood, may be boiled in a quart of water, to an English pint. To the strained liquor may be added an equal quantity of red wine, and a glass of it taken frequently.

In obstinate agues, the bark will be found much more efficacious when assisted by brandy, or other warm cordials, than if taken alone. This I have had frequently occasion to observe in a country where intermitting fevers were endemical. The bark seldom succeeded unless assisted by snake-root, ginger, canella alba, or some other warm aromatic. When the fits are very frequent and violent, in which case the fever often approaches towards an inflammatory nature, it will be safer to keep out the aromatics, and to add salt of tartar in their stead. But in an obstinate tertian or quartan, in the end of autumn or beginning of winter, warm and cordial medicines are absolutely necessary.*

The sulphate and oxide of zinc have been successfully prescribed: the former, in doses of a quarter or half a grain every four or six hours, is said to have proved very efficacious in cases of obstinate intermittents. As a tonic, the ammoniated copper has been given with considerable advantage. All these may be employed along with a decoction of cinchona, or any of the tonic bitters here recommended.

* In obstinate agues, when the patient is old, the habit phlegmatic, the season rainy, the situation damp, or the like, it will be necessary to mix with two ounces of the bark, half an ounce of Virginian snake-root, and a quarter of an ounce of ginger, or some other warm aromatic; but when the symptoms are of an inflammatory nature, half an ounce of salt of wormwood (subcarbonate of potash,) or salt of tartar, may be added to the above quantity of bark.

As autumnal and winter agues generally prove much more obstinate than those which attack the patient in spring or summer, it will be necessary to continue the use of medicines longer in the former than in the latter. A person who is seized with an intermitting fever in the beginning of winter, ought frequently, if the season prove rainy, to take a little medicine, although the disease may seem to be cured, to prevent a relapse, till the return of the warm season. He ought likewise to take care not to be much abroad in wet weather, especially in cold easterly winds.

When agues are not properly cured, they often degenerate into obstinate chronical diseases, as the dropsy, jaundice, &c. For this reason all possible care should be taken to have them radically cured, before the constitution has been too much weakened.

Though nothing is more rational than the method of treating intermitting fevers, yet, by some strange infatuation, more charms and whimsical remedies are daily used for removing this than any other disease. There is hardly an old woman who is not in possession of a nostrum for stopping an ague; and it is amazing with what readiness their pretensions are believed. Those in distress eagerly grasp at any thing that promises sudden relief; but the shortest way is not always the best in the treatment of diseases. The only method to obtain a safe and lasting cure, is gradually to assist Nature in removing the cause of their disorder.

Some, indeed, try bold, or rather fool-hardy experiments, to cure agues, as drinking great quantities of strong liquors, jumping into a river, taking arsenic,* &c. These may sometimes have the desired effect, but must always be attended with danger.† When there is any degree of inflammation, or the least tendency to it, such experiments may prove fatal. The only patient whom I remember to have lost in an intermitting fever, evidently killed himself by drinking strong liquor, which some person had persuaded him would prove an infallible remedy.

Many dirty things are extolled for the cure of intermitting fevers, as spiders, cobwebs,‡ snuffings of candles, &c. Though

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* Take Liquor of Arsenic (Fowler's solution,) 6 mins. or dps.
Cinnamon Water, 1½ oz.
Tincture of Cardamoms.
Syrup of Ginger, of each, 1 drm.
Make a draught, to be taken every hour.

† Vomitings, gripings, and swellings, and the loathing of food, are the troublesome symptoms now and then produced by an improper use of the arsenical solution. They generally, however, disappear on discontinuing the drops, or only require the exhibition of gentle opiates, some warm cathartic, or the tincture of rhubarb. It is said to cure intermittents in eight days. In Lincolnshire, which is a fenny country, where agues are very prevalent, it is universally used, and with most uniform success, and has been successfully administered by quacks under the appellation of the ague-drop.

‡ It is a very old popular belief that the spider's web cures agues, but among medical men, till within the last twenty years, little credit was given to this supposed popular superstition. In Dr. Robert Jackson's late visit to Philadelphia, he mentioned the efficacy of this remedy as indisputably ascertained, and averred (what he afterwards published) that as an anodyne to allay pain or calm irritation, it proved vastly superior even to opiates. It has for some time past been pretty liberally prescribed by Drs. Physick, Chapman, and Dewers, in Philadelphia; and though they attach different degrees of value to the article, "they are all satisfied that the representation of its virtue is very little, if at all exaggerated. In doses of five grains, repeated every fourth or fifth hour, Dr. Chapman has cured some obstinate intermittents, suspended the paroxysms of hectic, overcome morbid vigilance from excessive nervous mobility, and quieted irritation of the system from various causes. That used by Dr. Chapman was collected in cellars, and were probably the product of the common black spider. He has also satisfied himself that the web found in light exposed situations, the product

these may sometimes succeed, yet their very nastiness is sufficient to set them aside, especially when cleanly medicines will answer the purpose better. The only medicine that can be depended upon for thoroughly curing an intermittent fever, is the Peruvian bark. It may always be used with safety; and I can honestly declare, that in all my practice I never knew it fail, when combined with the medicines mentioned above, and duly persisted in.

Where agues are endemical, even children are often afflicted with that disease. Such patients are very difficult to cure, as they can seldom be prevailed upon to take the bark, or any other disagreeable medicine. One method of rendering this medicine more palatable, is to make it into a mixture with distilled waters and syrup, and afterwards to give it an agreeble sharpness with diluted sulphuric acid. This both improves the medicine, and takes off the nauseous taste. In cases where the bark cannot be administered, a proportionate dose of the *saline mixture** may be given with advantage to children.

Wine-whey is a very proper drink for a child in an ague; to half an English pint of which may be put a tea-spoonful of the spirit of hartshorn. Exercise is likewise of considerable service; and when the disease proves obstinate, the child ought, if possible, to be removed to a warm dry air. The food ought to be nourishing, and sometimes a little generous wine should be allowed.

To children, and such as cannot swallow the bark, or when the stomach will not bear it, it may be given by clyster. Half an ounce of the extract of bark, dissolved in four ounces of warm water, with the addition of half an ounce of sweet oil, and six or eight drops of laudanum, is the form recommended by Dr. Lind for an adult, and this to be repeated every fourth hour, or oftener, as the occasion shall require. For children the quantity of extract and laudanum must be proportionably lessened. Children have been cured of agues by making them wear a waistcoat with powdered bark quilted between the folds of it: by bathing them frequently in a strong decoction of the bark, and by rubbing the spine with strong spirit, or with a mixture of equal parts of the tincture of opium and the soap liniment.

To prevent agues, people must endeavour to avoid their causes. These have been already pointed out in the beginning of this section: we shall, therefore, only add one preventive medicine, which may be of use to such as are obliged to live in low marshy countries, or who are liable to frequent attacks of this disease.

Take an ounce of the best Peruvian bark; Virginian snake-root, and orange-peel, of each half an ounce; bruise them all together, and infuse for five or six days in a bottle of brandy, Holland gin, or any good spirit; afterwards pour off the clear liquor, and take a wine-glass of it twice or thrice a-day. This, indeed, is recommending a dram; but the bitter ingredients in a great measure take off the ill effects of the spirit. Those who do not choose

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of the grey spider, is inert, and so is the web of the other, when not recent, which may be known by its glutinous feel." See *Elements of Therapeutics and Materia Medica*. By N. CHAPMAN, M. D. In two Vols. 8vo. Vol. ii.

* Take Sulphate of Magnesia, 6 drachms. Syrup of Orange-peel, 1 drachm.
Infusion of Senna, 1½ ounce. Make a purging draught.

it in brandy, may infuse it in wine ; and such as can bring themselves to chew the bark, will find that method succeed very well. Gentian-root, or calamus aromaticus, may also be chewed by turns for the same purpose. All bitter tonics seem to be antidotes to agues, especially those that are warm and astringent.*

Various other species of bark are found to be equally efficacious in the cure of intermittents ; e. g. *salix fragile*, or crack-willow bark, cascarilla, cusparia, Jamaica bark, oak bark, &c.

Two new vegetable alkalis have been procured from the Peruvian bark ; one from the red, or cinchona oblongifolia, called cinchonina : the other from the grey, or cinchona cordifolia, called quinine, though this is found in both the red and yellow bark.

Quinine,† the most distinguished in the cures of agues, is white and intensely bitter. Its success in removing intermittents has been amply confirmed by Dr. Elliot, of St. Thomas's hospital, and others ; and it possesses many advantages over the Peruvian bark in any shape ; among which the smallness of the dose is not the least important, being from five to ten grains, either in the form of syrup, pills, tincture, wine, &c.

Intermittent fevers assume various types at different seasons, &c. which it is the province of the physician to attend to. Their character seems to depend much upon the age or peculiar habit of the body of the individual, and the temperament of the atmosphere. It is also observed that variations are more common in the quotidian than in any other type, which, perhaps, may be attributed to its more frequent occurrence in early life, when the frame is more irritable, and to the debility which the constitution suffers from this type above that of any other, in consequence of the greater length of its paroxysms, and the greater brevity of its intervals, by which means the prostrated strength of the system has no time to rally or recover itself.

Diet.—While the fit continues, the patient ought to drink freely of water-gruel, orange-whey, weak comomile-tea ; or, if his spirits be low, small wine-whey, sharpened with the juice of lemon. All his drink should be warm, as that will assist in bringing on the sweat, and consequently shorten the paroxysm.‡

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* Blessed thistle, gentian, wormwood, camomile, bitter wood, columba, St. Ignatius bean, lesser centaury, German leopard's bane.

† Take Sulphate of Quinine, 12 grains.
Good Madeira wine, 2½ pints.
Make a solution ; the dose of which may be from four to twenty four ounces in the course of the day.

or

Take Sulphate of Quinine, 6 grs.
Alcohol (specific gravity 847) 1 gr.
Make a tincture ; dose 2 to 6 drms.

or

Take Sulphate of Quinine, 15 grs.
Extract of Camomile, 15 grs.
Beat up and divide into six pills ; one to be taken every third hour.

or

Take Sulphate of Quinine, 15 grs.
Simple Syrup, ½ pint.
Mix for a syrup, and take three table spoonsful three times a day.

‡ Dr. Lind says, that twenty or twenty-five drops of laudanum put into a cup of the patient's drink, and given about half an hour after the commencement of the hot fit, promotes the sweat, shortens the fit, relieves the head, and tends greatly to remove the disease.

CHAP. IV.

REMITTENT FEVER.

This fever takes its name from a remission of the symptoms, which happens sometimes sooner and sometimes later, but generally before the eighth day. The remission is commonly preceded by a gentle sweat, after which the patient seems greatly relieved, but in a few hours the fever returns. These remissions return at very irregular periods, and are sometimes of longer, sometimes of shorter duration: the nearer, however, that the fever approaches to a regular intermittent, the danger is the less.

Causes.—Remittent fevers prevail in low marshy countries abounding with wood and stagnating water;* but they prove most fatal in places where great heat and moisture are combined, as in some parts of Africa, Bengal, in the East Indies, &c. where remitting fevers are generally of a putrid kind, and prove very fatal. They are most frequent in close calm weather, especially after rainy seasons, great inundations, or the like. No age, sex, or constitution is exempted from the attack of this fever; but it chiefly seizes persons of a lax habit, who live in low dirty habitations, breathe an impure stagnating air, take little exercise, and use unwholesome diet.

Symptoms.—The first symptoms of this fever are generally yawning, stretching, pain, languor, and giddiness in the head, with alternate fits of heat and cold. Sometimes the patient is affected with a delirium at the very first attack. There is a pain and sometimes a swelling, about the region of the stomach, the tongue is white, the eyes and skin frequently appear yellow, and the patient is often afflicted with bilious vomitings. The pulse is sometimes a little hard, but seldom full; and the blood, when let, rarely shows any signs of inflammation. Some patients are exceedingly costive, and others are afflicted with a very troublesome looseness.

It is impossible to describe all the symptoms of this disease, as they vary according to the situation, the season of the year, and the constitution of the patient. They may likewise be greatly changed by the method of treatment, and by many other circumstances too tedious to mention. Sometimes the bilious symptoms

* Although originally produced by marsh miasma, and in its simple state not of an infectious nature, this fever under bad management, such as crowding too many sick together, neglecting proper cleanliness and a free ventilation, there cannot be a doubt that it may in its course engender a matter capable of occasioning a fever of a highly contagious nature; and although remittent fever cannot be communicated at any great distance from the source of its exciting cause, however severely and epidemically it may prevail in certain situations and districts; and although the matter producing it be essentially the same, still we may conclude, "I think," says Dr. Thomas,(a) "that a more aggravated form of the disease is occasioned by a more concentrated state of the person: hence the different degrees of severity of remittent fever at different periods of the year, and in different climates." Ed.

(a) Modern Practice of Physic.

predominate, sometimes the nervous, and at other times the putrid. Nor is it at all uncommon to find a succession of each of these, or even a complication of them at the same time, in the same person.

DIET.—The regimen must be adapted to the prevailing symptoms. When there are any signs of inflammation, the diet must be slender, and the drink weak and diluting. But when nervous or putrid symptoms prevail, it will be necessary to support the patient with food and liquors of a more generous nature, such as are recommended in the immediately preceding fevers. We must, however, be very cautious in the use of things of a heating quality, as this fever is frequently changed into a *continual* by an hot regimen, and improper medicines.

Whatever the symptoms are, the patient ought to be kept cool, quiet, and clean. His apartment, if possible, should be large, and frequently ventilated by letting in fresh air at the doors and windows. It ought likewise to be sprinkled with vinegar, juice of lemon, or the like. His linen, bed clothes, &c. should be frequently changed, and all his excrements immediately removed. Though these things have been recommended before, we think it necessary to repeat them here, as they are of more importance to the sick than practitioners are apt to imagine.*

MEDICAL TREATMENT.—In order to cure this fever, we must endeavour to bring it to a regular intermission. This intention may be promoted by bleeding, if there be any signs of inflammation; but when that is not the case, bleeding ought by no means to be attempted, as it will weaken the patient and prolong the disease. But in all protracted cases, under every climate, where the pulse is weak, but where the head is still much affected, the application of cupping-glasses to the back part of the head, or of leeches to the temples, will be more advisable than venesection. As nausea usually prevails at the commencement of the disease, an emetic will seldom be improper, and is generally of great service. Twenty or thirty grains of ipecacuanha will answer this purpose very well; but where it can be obtained, we would rather recommend a gram or two of tartar emetic, with five or six grains of ipecacuanha, to be made into a draught, and given for a vomit. This may be repeated once or twice at proper intervals, if the sickness or nausea continues.

Cold affusion, where it can be practised with propriety, produces the most agreeable effects with a tendency to sleep, fuller and more uniform pulse, moist skin, and now and then a distinct remission. To alter the type of the fever, it may be proper to give

* The patient's shirt, bed-clothes, and bedding, ought frequently to be changed, and exposed to the air, and all his excrements immediately removed; the bed chamber should be well ventilated, and frequently sprinkled with vinegar; in short, every attention should be paid to the patient. I can affirm, that a physician who puts these in practice will much oftener succeed, than one who is even more skilful, but has not opportunity of using these means. DR. LIND.

antimonials,* in small and repeated doses. To allay vomiting, warm fomentation of camomiles, and bruised poppy-heads, clear the seat of the stomach. Saline draughts in a state of effervescence, to each of which may be added ten drops of the tincture of opium.

The body ought to be kept open either by clysters or gentle laxatives, as weak infusions of senna and manna, small doses of the lenitive electuary, cream of tartar, tamarinds, stewed prunes, or the like; but all strong or drastic purgatives are to be carefully avoided.

In this fever, as well as in that called the yellow fever (*typhus uterocles*,) the submuriate of mercury,† combined with rhubarb or jalap, may be regarded as a valuable remedy, where it is wished to carry off putrid feculent matter from the bowels, and there is at the same time any degree of nausea or vomiting present, as, from the smallness of the bulk, it may possibly be retained on the stomach when every other purgative might be rejected.

In cold climates we may wait for a perfect and complete remission before the bark is administered; but in warm climates it ought to be given even in the most imperfect and shortest remission; and although it may not prove sufficiently efficacious to prevent a fresh attack at first, it will, nevertheless, mitigate the subsequent return of the fever, and at last bring about regular and a perfect remission. When this is omitted in warm climates, it is apt to assume a continued form.

By this course the fever in a few days may generally be brought to a pretty regular or distinct intermission, in which case the Peruvian bark may be administered, and it will seldom fail to perfect the cure. It is needless here to repeat the methods of giving the bark, as we have already had occasion frequently to mention them.

The most likely way to avoid this fever is to use a wholesome or nourishing diet, to pay the most scrupulous attention to cleanliness, to keep the body warm, to take sufficient exercise, and in hot countries to avoid damp situations, night air, evening dews, and the like. In countries where it is endemical, the best preventive medicine which we can recommend is the Peruvian bark, which may either be chewed, or infused in brandy or wine, &c. Some recommend smoking tobacco as very beneficial in marshy countries, both for prevention of this and intermitting fevers. And to guard against a relapse, the bark should be continued for some days after the attacks have ceased, and not, as is frequently the case, too hastily laid aside.

A remittent fever is always attended with some hazard, particularly in warm climates, in which it usually goes through its course in the space of five or six days; but in cold ones, its crisis is not usually affected until the twelfth or fourteenth. The shorter and

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* Take compound powder of ipecacuanha, 4 grains.
Camphor, 3 grains.
Confection of Roses, enough.
Make a bolus, to be taken every third or fourth hour.

† Take powdered Rhubarb, 10 to 20 grs.
Submuriate of Mercury (Calomel,) 5 grains.
Simple Syrup, enough to make up into four pills for a dose.

or

Take powdered Jalap, 15 grs.
Submuriate of Mercury, 15 grs.
Make a powder.

more obscure the remissions are the greater the danger, and each succeeding paroxysm is attended with more risk than the former one. On the contrary, the milder the attack, and the nearer the fever approaches to the intermittent form, the sooner will be the prospect of the patient's recovery.

As disorders of this kind are more to be dreaded in a camp than the approach of an enemy, it is the duty of superior officers very earnestly to concur with their medical attendants in enforcing the proper means of prevention. The spirit of our soldiers betrays them into a contempt of disease, as well as of danger; and they are too apt to forget, that no hardihood can of itself resist the warm, sickly moisture of autumn, and the damp air of the night to which they are often unavoidably exposed. Those brave, but thoughtless men, should, therefore, be obliged to pay more attention to the simple preservatives from fevers above pointed out. I have too high an opinion of the talents of many eminent physicians and surgeons now in the army, to think any farther remarks on this subject necessary. I am persuaded that a hint will be sufficient to call forth the fullest exercise of their skill, their humanity, and their zeal also, for the honour and security of their country, in saving their lives, and promoting the health and vigour of its gallant defenders.

CHAP. V.

CONTINUED FEVERS.

Fevers of this type continue for several days, with nearly the same degree of violence, having evident exacerbations and remissions daily.

SYNOCHUS, OR SIMPLE CONTINUED FEVER.

A combination of synochal or inflammatory typhoid or putrid symptoms appear to constitute this species of fever; the former being apt to preponderate at the commencement, the latter towards the termination of the disease. It is contagious, and is of more frequent occurrence in this country.

Remote Causes.—Every thing having a tendency to enervate the body, may be considered as a remote cause of fever; and, accordingly, we often find it resulting from great bodily fatigue, too great indulgence in sensual pleasures, violent exertions, intemperance in drinking, errors in diet, &c.; and now and then from the suppression of long accustomed evacuations; with all the causes enumerated under the general observations on fevers. *See* Fevers.

It is the opinion of many physicians, that there is something in the nature of all acute diseases, except those of a putrid kind,

which usually determines them to be of a certain duration; consequently, these terminations, when salutary, happen at certain periods of the disease, rather than others, unless disturbed in their progress by improper treatment, or the occurrence of accidental causes. These periods, from the time of Hippocrates to the present day, have been pretty generally admitted, under the name of *critical days*. The days in which it is supposed the termination of continued fevers principally happens, are the third, fifth, seventh, ninth, eleventh, fourteenth, seventeenth, and twentieth.

A simple continued fever terminates always by a regular crisis; and it is observable, with respect to diseases, the definite periods which take place in regular intermittents, as well those general as topical, in the course of true inflammation, which at the fourth, or furthest at the seventh day, is resolved, or after this period changes into abscess, scirrhus, or gangrene. In exanthematous eruptions, which, if they are favourable and regular, show themselves on a certain and definite day; for example, the small-pox about the fourth: in measles about the third and fourth.

Symptoms.—An attack of simple continued fever is generally characterized by the patient's being seized with a considerable degree of languor or sense of debility, with sluggishness, an aversion to motion, frequent yawning and stretching; the face and extremities at the same time becoming pale, the skin over the whole body becoming constricted; a subsequent sensation of cold in the back, passing thence over the whole frame; and these continuing to increase, tremors in the limbs, and cold shiverings succeed. With these symptoms, there is loss of appetite, want of taste in the mouth, slight pains in the back, head, loins, and a small and frequent respiration. The sense of cold and its effects, after a little time become less violent, alternated with flushes; and, at length, going off altogether, they are succeeded by great heat, diffused generally over the whole body; the face appears flushed, the skin looks dry, as also the tongue; universal restlessness prevails, with violent pain of the head, oppression at the chest, sickness at the stomach, with inclination to vomit. There is likewise great thirst and costiveness; and the pulse is full and frequent, producing, perhaps, 90, 100, or 120 pulsations in a minute. When these symptoms run high, and there is considerable determination of blood to the head, delirium will ensue. There is, generally, in this fever, as in others of the continued kind, an increase of symptoms towards the evening.

Unfavourable symptoms.—If the disease is likely to prove fatal, either in consequence of its long continuance, or the severity of the symptoms, there will be observed a starting of the tendons (subsultus tendinis,) the patient picking the bed-clothes; involuntary discharges by urine and stool; coldness of the extremities, and hiccups: but where no such appearances occur, the fever will run its course, and ultimately cease.

Favourable symptoms.—The pulse becoming soft, moderate, and approaching its natural state: the tongue losing its furred ap-

pearance, and becoming clean; thirst abating, the skin covered with a gentle and equable moisture, and feeling soft to the touch; the secretory organs performing their several functions, and the urine depositing flaky crystals of a dirty red colour, and becoming turbid on being allowed to stand.

Medical treatment.—In fever, all bodily motion should be avoided, especially that which calls any of the muscular powers into motion; the patient ought therefore to be confined to bed. The stomach and rest of the alimentary canal, in many cases of fever, being manifestly affected in a higher degree than any other part of the body, emetics and purgatives, which are early adopted. The treatment, in short, will be nearly the same in this as in synocha or inflammatory at the commencement; the utmost caution, however, must be employed in the use of those means which have a manifest tendency to reduce the tone of the system, especially blood-letting; so that sufficient strength may be left to combat the succeeding stage, which is invariably one of great debility, and in which the treatment will be that proper for typhus or putrid fever.

Diet.—In this fever, particularly at the commencement, the antiphlogistic regimen will be strictly necessary, as well as in some others of continued fevers. That kind of aliment which gives the least stimulus will be the most proper: it should consist of the most light, nutritive, and easiest digestible substances, *e. g.* preparations of barley, oatmeal, sago, vermicelli, tapioca, and the meal of Indian arrow, varying them now and then for panado, roasted apples, &c. Animal broths increase the heat of the body, and, consequently, are improper, unless the patient be in a state of convalescence. The drink may be barley-water, linseed-tea, toast and water, milk whey, thin gruel, lemonade, &c. carefully abstaining from the use of spirituous or fermented liquors.

CHAP. VI.

INFLAMMATORY, ACUTE, OR ARDENT FEVER (*synocha.*)

This fever is characterized with considerable increase of heat, a frequent, strong, and hard pulse, urine red, the animal functions but little disturbed, although at an advanced stage of it, the brain is apt to become much affected. It most commonly attacks the young, or persons about the prime and vigour of life, especially such as live high, abound in blood, and whose fibres are strong and elastic. It seizes people at all seasons of the year; but is most frequent in the spring and beginning of summer.

Causes.—Sudden transitions from heat to cold; any thing that overheats the body, or produces plethora, as violent exercise, sleeping in the sun, drinking strong liquors, eating spiceries, a full

diet, with little exercise, application of cold to the body when warm, &c. It may likewise be occasioned by whatever obstructs the perspiration, as lying on the damp ground, drinking cold liquor when the body is hot, night-watching, repelled eruptions, suppressed evacuations, &c.

Symptoms.—A rigour or chilliness generally ushers in this fever, which is soon succeeded by great heat, a frequent and full pulse, pain of the head, dry skin, redness of the eyes, a florid countenance, pains in the back, loins, &c. To these succeed difficulty of breathing, sickness, with an inclination to vomit. The patient complains of great thirst, has no appetite for solid food, is restless, and his tongue is of a scarlet colour at the sides, and furred with white in the centre.

Unfavourable symptoms.—Delirium, excessive restlessness, great oppression of the breast, with laborious respiration, starting of the tendons, hiccup, cold clammy sweats, and an involuntary discharge of urine, with those enumerated under this head in simple continued fevers, &c. This disease usually goes through its course in about fourteen days, and terminates critically, either by a diaphoresis (gentle degrees of perspiration,) diarrhœa, hemorrhage from the nose, or the deposit of a copious sediment in the urine; a crisis which is usually preceded by some variation in the pulse. In some instances, however, it terminates fatally. Our judgment, therefore, of the disease, must be entirely regulated by the violence of the attack, and the nature of the symptoms.

As this disease is always attended with danger, the best medical assistance ought to be procured as soon as possible. A physician may be of use at the beginning, but his skill is often of no avail afterwards.

Diet.—From the symptoms of this disease, it is evident, that the blood and other humours require to be attenuated; that the perspiration, urine, saliva, and all the other secretions, are in too small quantity; that the vessels are rigid, and the heat of the whole body too great: all these clearly point out the necessity of a regimen calculated to dilute the blood, correct the acrimony of the humours, allay the excessive heat, remove the spasmodic stricture of the vessels, and promote the secretions.

These important purposes may be greatly promoted by drinking plentifully of diluting liquors, as water-gruel, or oatmeal-tea; clear whey, barley-water, balm-tea, apple-tea, &c. These may be sharpened with juice of orange, jelly of currants, raspberries, and such like: orange-whey is likewise an excellent cooling drink. It is made by boiling among milk and water a bitter orange sliced, till the curd separates. If no orange can be had, a lemon, a little cream of tartar, or a few spoonsful of vinegar will have the same effect. Two or three spoonsful of white wine may occasionally be added to the liquor when boiling.

If the patient be costive, an ounce of tamarinds, with two ounces of stoned raisins of the sun, and a couple of figs, may be boiled in three English pints of water to a quart. This makes a very pleasant drink, and may be used at discretion. The common pectoral

decoction is likewise a very proper drink in this disease. A teacupful of it may be taken every two hours, or oftener, if the patient's heat and thirst be very great.*

The above liquids must all be drank a little warm. They may be used in smaller quantities at the beginning of a fever, but more freely afterwards, in order to assist in carrying off the disease by promoting the different excretions. We have mentioned a variety of drinks, that the patient may have it in his power to choose those which are most agreeable, and that when tired of one, he may have recourse to another.

The patient's diet must be very spare and light. All sorts of flesh meats, and even chicken-broths, are to be avoided. He may be allowed groat-gruel, panado, or light bread boiled in water; to which may be added a few grains of common salt, and a little sugar, which will render it more palatable. He may eat roasted apples, with a little sugar, toasted bread with jelly of currants, boiled prunes, &c.

It will greatly relieve the patient, especially in a hot season, to have fresh air frequently let into his chamber. This, however, must always be done in such a manner as not to endanger his catching cold.

It is too common in fevers to load the patient with bed-clothes under the pretence of making him sweat, or defending him from the cold. This custom has many ill-effects. It increases the heat of the body, fatigues the patient, and retards, instead of promoting, the perspiration.

Sitting upright in bed, if the patient be able to bear it, will often have a good effect. It relieves the head, by retarding the motion of the blood to the brain. But this posture ought never to be continued too long: and if the patient be inclined to sweat, it will be more safe to let him lie, only raising his head a little with pillows.

Sprinkling the chamber with vinegar, juice of lemon, or vinegar and rose-water, with a little nitre dissolved in it, will greatly refresh the patient. This ought to be done frequently, especially if the weather be hot.

The patient's mouth should be often washed with a mixture of water and honey, to which a little vinegar may be added, or with a decoction of figs in barley-water. His feet and hands ought likewise frequently to be bathed in lukewarm water; especially if the head be affected.

The patient should be kept as quiet and easy as possible. Company, noise, and every thing that disturbs the mind, is hurtful. Even too much light, or any thing that affects the senses, ought to be avoided. His attendants should be as few as possible, and they ought not to be too often changed. His inclinations ought rather to be soothed than contradicted; even the promise of what he craves will often satisfy him as much as its reality.

MEDICAL TREATMENT.—In this and all other fevers, attended with a hard, full, quick pulse, bleeding is of the greatest import-

* See Appendix, *Pectoral Decoction.*

ance. This operation ought always to be performed as soon as the symptoms of an inflammatory fever appear; and one large bleeding at this period of the disease will have a much better effect than repeated small ones afterwards. The quantity of blood to be taken away from a large orifice, however, must be in proportion to the strength of the patient and the violence of the disease. If the patient be young and plethoric, twelve to twenty ounces of blood may be drawn off at once from a large orifice. If after the first bleeding the fever should increase, and the pulse become more frequent and hard, there will be a necessity for repeating it a second, and perhaps a third, or even a fourth time, which may be done at the distance of twelve, eighteen, or twenty-four hours from each other, as the symptoms require. If the pulse continue soft, and the patient be tolerably easy after the first bleeding, it ought not to be repeated.

If nausea prevail at the commencement of the disease, the stomach may be relieved by making the patient drink one or two cupsful of the infusion of camomile flowers; but should these simple means not be attended with the desired effect, he may take a table spoonful of an emetic solution, every quarter of an hour, until sufficiently eased.

If the heat and fever be very great, forty or fifty drops of the dulcified or sweet spirit of nitre may be made into a draught, with an ounce of rose-water, two ounces of common water, and half an ounce of simple syrup, or a bit of loaf-sugar. This draught may be given to the patient every three or four hours while the fever is violent; afterwards once in five or six hours will be sufficient, using some diluent drink.

If the body be bound, a clyster of milk and water, with a little salt, and a spoonful of sweet oil or fresh butter in it, ought daily to be administered. Should this not have the desired effect, a teaspoonful of magnesia alba, or cream of tartar, may be frequently put into his drink, or some gentle aperient may be given.* He may likewise eat tamarinds, boiled prunes, roasted apples, and the like.

If there be pain in the head with delirium, oppressed breathing, or determination to any organ, leeches should be applied to the temples, or other parts, blisters, fomentations, &c. and the treatment laid down for the particular organ affected should be adopted.

If about the tenth, eleventh, or twelfth day, the pulse becomes more soft, the tongue moister, and the urine begins to let fall a reddish sediment, there is reason to expect a favourable issue to the disease. But if, instead of these symptoms, the patient's spirits grow languid, his pulse sinks, and his breathing becomes diffi-

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* Take Pulp of Tamarinds, ½ ounce.
Cream of Tartar, 2 drachms.
Boiling Water, 5 ounces.
Strain off the liquor and add,
Cinnamon Water, 1 ounce.
Tartarised Antimony, 1 grain.
Four table spoonsful to be taken for a dose, to be repeated in three hours, should no motions in that time have been obtained.

or

Take Sulphate of Soda, 6 drachms.
Infusion of Senna, 1½ ounce.
Syrup of Oranges, 1 drachm.
Make a purging draught.

or

Take powdered Rhubarb, 25 grains.
Cream of Tartar, 1 drachm.
Make a powder, to be taken out of some appropriate vehicle.

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nauseating doses of tartarized antimony,* or the like, or so as to act on the bowels as occasion may require. A bath for the feet, at night, may assist the effect.

In this fever, as in most others, sleep is much interrupted and from a want of it delirium often ensues. Opium here would be an uncertain remedy, for should it fail to procure rest, the delirium would be considerably increased by it. It should, therefore, only be given in cases of imminent danger, and even then in small doses, frequently repeated, paying strict attention to the state it produces.

Throughou' the whole disease the patient must be strictly enjoined to pay the greatest attention to the diet here laid down, and to abstain from solid food, and animal broths of any kind.

Fresh air, exercise of a gentle kind, on horseback or in a carriage, agreeable society, and a moderate use of wine, will greatly contribute to the recovery of convalescents. Should the digestive organs prove weak, which will be indicated by the appetite not readily returning, stomachic bitters, as advised under the head of indigestion, may be taken with advantage, &c.

CHAP. VII.

SLOW OR NERVOUS FEVER. *(Typhus Mitior.)*

Nervous fevers have increased greatly of late years in this island, owing doubtless to our different manner of living, and the increase of sedentary employments; as they commonly attack persons of a weak relaxed habit, who neglect exercise, eat little solid food, study hard, or indulge in spirituous liquors.

Causes.—Nervous fevers may be occasioned by whatever depresses the spirits, or impoverishes the blood; as grief, fear, anxiety, want of sleep, intense thought, living on poor watery diet, as unripe fruits, cucumbers, melons, mushrooms, &c. They may likewise be occasioned by damp, confined, or unwholesome air. Hence they are very common in rainy seasons, and prove most fatal to those who live in low dirty houses, crowded streets, hospitals, jails, manufacturing or large towns, or such like places.

It principally attacks those of weak lax fibres, and persons whose constitutions have been broken by excessive venery, frequent salivations, too free an use of purgative medicines, or any other excessive evacuations, are most liable to this disease.

Keeping on wet clothes, lying on the damp ground, excessive fatigue, and whatever obstructs the perspiration, or causes a spasmodic stricture of the solids, may likewise occasion nervous fevers. We shall only add, frequent and great irregularities in diet. Too great abstinence, as well as excess, is hurtful. Nothing tends so

* Take Epsom Salts, 6 drachms. Syrup of Oranges, 1 drachm.
Infusion of Senna, 6 ounces. Mix, and make a purgative draught, as
Antimony Wine, 20 drops. occasion may require.

much to preserve the body in a sound state as a regular diet; nor can any thing contribute more to occasion fevers of the worst kind than its opposite.

The most general cause of this fever is contagion,* communicated through the medium of an impure or heated atmosphere, by concentrated effluvia arising from the body of a person labouring under this specific disease; but whatever debilitates the system or oppresses the mind may induce a state of pre-disposition more readily to be influenced by its operations; and although in the origin and progress of typhus and such like fevers, it is undeniable that contagion is the most powerful agent in propagating the disease, still many of these fevers, though not contagious at their origin, become so in their progress and decline, and, in some instances, generate others of a much worse description than the original one; and this, in all probability, is the way in which epidemics appear and spread.

In warm climates typhus sometimes occurs, and continued fevers of most kinds are apt to degenerate into fever of a typhus type. It is, however, most prevalent in temperate and cold climates. In Great Britain typhus is favoured by a low temperature, being most prevalent in the cold months of winter, generally abating or disappearing as the summer-heat advances, and often prevailing, in a considerable degree, in cool wet autumns.

Symptoms.—Typhus Mitior generally sets in with remarkable mildness in its symptoms; and although the patient experiences some trifling indisposition for several days, still he has no reason to suspect the approach of any severe disease. There is dejection of spirits; want of appetite, weakness, weariness after motion, watchfulness, deep sighing, and dejection of mind, are generally the forerunners of this disease. These are succeeded by a quick low pulse, a dry tongue without any considerable thirst, chilliness and flushings in turns, &c.

After some time the patient complains of a giddiness and pain of the head, has a nausea, with retchings and vomiting; the pulse is quick, and sometimes intermitting; the urine pale, resembling dead small-beer, and the breathing is difficult, with oppression of the breast, and slight alienation of the mind.

If, towards the ninth, tenth, or twelfth day, the tongue becomes more moist, with a plentiful spitting, a gentle purging, or a moisture upon the skin; or if a suppuration happen in one or both ears, or large pustules break out about the lips and nose, there is reason to hope for a favourable crisis.

But if there be an excessive looseness or wasting sweats, with frequent fainting fits; if the tongue when put out trembles ex-

* Dr. Haygarth, who devoted considerable attention to the consideration of the contagious nature of typhus fever, and the manner in which it is propagated, has deduced therefrom a variety of important facts, of very great importance for the prevention of misery, and the preservation of human life; whence he concludes, that typhus may be easily and certainly prevented by *ventilation*; (in large, airy, and clean rooms,) or by *separation* (into air hospitals, or into an adjoining room of the same house, where practicable); or especially by cleanliness, which entirely destroys the poison, wherever it can be completely accomplished. (See *Dr. Haygarth's letter to Dr. Percival*, pp. 72. 89.)

cessively, and the extremities feel cold, with a fluttering or slow creeping pulse; if there be a starting of the tendons, and almost total loss of sight and hearing, and an involuntary discharge of stool and urine, there is great reason to fear that death is approaching.

DIET.—It is very necessary, in this disease, to keep the patient cool and quiet. The least motion would fatigue him, and will be apt to occasion weariness, and even faintings. His mind ought not only to be kept easy, but soothed and comforted with the hopes of a speedy recovery. Nothing is more hurtful in low fevers of this kind than presenting to the patient's imagination gloomy or frightful ideas. These of themselves but often occasion nervous fevers, and it is not to be doubted but they will likewise aggravate them.

The patient must not be kept too low. His strength and spirits ought to be supported by nourishing diet and generous cordials. For this purpose his gruel, panado, or whatever food he takes, must be mixed with wine according as the symptoms may require. Pretty strong wine-whey, or negus sharpened with the juice of orange or lemon, will be proper for his ordinary drink. Mustard-whey is likewise a very proper drink in this fever, and may be rendered an excellent cordial medicine by the addition of a proper quantity of white-wine.*

Wine in this disease, if it could be obtained genuine, is almost the only medicine that would be necessary. Good wine possesses all the virtues of the cordial medicines, while it is free from any of their bad qualities; I say good wine; for however common this article of luxury is now become, it is rarely to be obtained genuine, especially by the poor, who are obliged to purchase it in small quantities.

I have often seen patients in low nervous fevers where the pulse could hardly be felt, with a constant delirium, coldness of the extremities, and almost every other mortal symptom, recover by using, in whey, gruel, and negus, a bottle or two of strong wine every day. Good old sound claret is the best, and may be made into negus, or given by itself, as circumstances require.†

In a word, the great aim in this disease is to support the patient's strength, by giving him frequently small quantities of the above, or other drinks of a warm and cordial nature. He is not, however, to be overheated either with liquor or clothes; and his food ought to be light, and given in small quantities.

MEDICAL TREATMENT.—Where a nausea, load, and sickness at stomach, prevail at the beginning of the fever, it will be necessary

* See Appendix, *Mustard Whey.*

† Where wine cannot be procured, equally beneficial effects have been produced by drinking sound porter or ale with a lemon or orange sliced into it, and rendered agreeable to the palate of the patient by the addition of moist sugar. This beverage may be drunk at pleasure, will be found to support strength as effectually as wine, and is in general much relished by the sick; with the addition of one dram of muriatic acid to each quart of the liquor, it forms a remedy to which the cure of most of the low fevers of this country may with safety be confided. ED.

to give the patient a gentle vomit.* This may be repeated any time before the third or fourth day, if the above symptoms continue. Emetics not only clean the stomach, but, by the general shock which they give, promote the perspiration, and have many other excellent effects in slow fevers, where there are no signs of inflammation, and nature wants rousing.

Such as dare not venture upon an emetic, may clear the bowels by a small dose of Turkey rhubarb, or an infusion of senna and manna, or sublimate of mercury.†

In all fevers, the great point is to regulate the symptoms, so as to prevent them from going to either extreme. Thus, in fevers of the inflammatory kind, where the force of the circulation is too great, or the blood dense, and the fibres too rigid, bleeding and other evacuations are necessary. But in nervous fevers, where nature flags, where the blood is vapid and poor, and the solids relaxed, the lancet must be spared, and wine, with other cordials, plentifully administered.

It is the more necessary to caution people against bleeding in this disease, as there is generally, at the beginning, an universal stricture upon the vessels, and sometimes an oppression and difficulty of breathing, which suggest the idea of a plethora, or too great a quantity of blood. I have known even some of the faculty deceived by their own feelings in this respect, so far as to insist upon being bled, when it was evident, from the consequences, that the operation was improper.

Though venesection is generally improper in this disease, yet topical bleeding from the temples, at the commencement, to relieve cerebral congestion, will be advisable, in persons of delicate constitutions; although in full plethoric habits it may be more proper to draw off six or eight ounces of blood from the arm, or jugular vein, on the first day of the attack. Cold affusions is one of the most powerful and efficacious means that can be resorted to in typhus fever; but its effects will be more salutary in proportion as it is adopted early, or during the first stage of the disease. The affusion may be repeated four or five times in the course of the twenty-four hours, using spring water impregnated with common salt, when sea water is not at hand. At the same time the patient's feet may be placed in a warm bath. This operation being over, the feet dried, and the patient put to bed, some tepid bland fluid may be given to promote perspiration. In the more advanced stage a tepid affusion may be substituted for the cold, to which a small portion of ardent spirit may be added to the water, with the view of increasing the evaporative process. Vinegar is usually substituted, although the former is preferable. Blistering is also highly necessary. Blistering plasters may be applied, at all times of the fever, with great advantage. If the patient be delirious, he ought to be blistered on the neck or head, and it will be the safest course, when the insensibility continues, as soon as

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* See SIMPLE CONTINUED FEVER.

† Take Powdered Jalap, 10 grains.
Submuriate of Mercury, 3 grains.
Syrup of Buckthorn, enough to make the mass, which divide into three pills for a dose.

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ity. The changes for the better are often as sudden, and unforeseen, as those for the worse. The last gasp alone should induce us to give over the patient. I have left a patient twenty times and more, little expecting to see him alive next day. Yet I did not lose courage, but ordered a bottle, or perhaps two, of generous wine to be given in the course of twenty-four hours; and that patient, to my great satisfaction, recovered, and enjoyed health for many years after.

CHAP. VIII.

MALIGNANT AND PUTRID, OR SPOTTED FEVER,
(Typhus gravior.)

This fever, which takes its name from the malignancy of its nature, and the symptoms of putrefaction observed towards its close, may be called the *pestilential fever* of Europe, as in many of its symptoms it bears a great resemblance to that dreadful disease the plague. Persons of a lax habit, a melancholy disposition, and those whose vigour has been wasted by long fasting, watching, hard labour, excessive venery, frequent salivations, &c. are most liable to it.

Causes.—This fever is occasioned by foul air, from a number of people being confined in a narrow place, not properly ventilated; from putrid animal and vegetable effluvia, &c. Hence it prevails in camps, jails, hospitals, and infirmaries, especially where such places are too much crowded, and cleanliness is neglected.

A close constitution of the air, with long rainy or foggy weather, likewise occasions putrid fevers. They often succeed great inundations in low and marshy countries, especially when these are preceded or followed by a hot and sultry season.

Living too much upon animal food, without a proper mixture of vegetables, or eating fish or flesh that has been kept too long, are likewise apt to occasion this kind of fever. Hence sailors on long voyages, and the inhabitants of besieged cities, are very often visited with putrid fevers.

Corn that has been greatly damaged by rainy seasons, or long keeping, and water which has become putrid by stagnation, &c. may likewise occasion this fever.

Dead carcases tainting the air, especially in hot seasons, are very apt to occasion putrid diseases. Hence this kind of fever often prevails in countries which are the scenes of war and bloodshed. This shows the propriety of removing burying-grounds, slaughter-houses, &c. to a proper distance from great towns.

Want of cleanliness is a very general cause of putrid fevers. Hence they prevail amongst the poor inhabitants of large towns, who breathe a confined unwholesome air, and neglect cleanliness.

Such mechanics as carry on dirty employments, and are constantly confined within doors, are likewise very liable to this disease.

We shall only add, that putrid, malignant, or spotted fevers are highly infectious, and are therefore often communicated by contagion. For which reason all persons ought to keep at a distance from those affected with such diseases, unless their attendance is absolutely necessary.

Symptoms.—The malignant fever is generally preceded by languor, a remarkable weakness, or loss of strength, without any apparent cause. This is sometimes so great, that the patient can scarcely walk, or even sit upright, without being in danger of fainting away. His mind, too, is greatly dejected; he sighs, and is full of dreadful apprehensions. There is a nausea, and sometimes a vomiting of bile; a violent pain of the head, with a strong pulsation or throbbing of the temporal arteries; the eyes often appear red and inflamed, with a pain at the bottom of the orbit; there is a noise in the ears, the breathing is laborious, and often interrupted with a sigh; the patient complains of a pain about the region of the stomach, and in his back and loins; his tongue is at first white, but afterwards it appears black and chapped; and his teeth are covered with a black crust. He sometimes passes worms both upwards and downwards, is affected with tremors or shaking, and often becomes delirious.

If blood be let, it appears dissolved, or with a very small degree of cohesion, and soon becomes putrid; the stools smell extremely fœtid, and are sometimes of a greenish, black or reddish cast. Spots of a pale, purple, dun, or black colour, often appear upon the skin, and sometimes there are violent hæmorrhages or discharges of blood from the mouth, eyes, nose, &c.

Putrid fevers may be distinguished from the inflammatory, by the smallness of the pulse, the great dejection of mind, the dissolved state of the blood, the petechiæ or purple spots, and the putrid smell of the excrements. They may likewise be distinguished from the low or nervous fever, by the heat and thirst being greater, the urine of a higher colour, and the loss of strength, dejection of mind, and all the other symptoms more violent.

It sometimes happens, however, that the inflammatory, nervous, and putrid symptoms are so blended together, as to render it very difficult to determine to which class the fever belongs. In this case, the greatest caution and skill are requisite. Attention must be paid to those symptoms which are most prevalent, and both the regimen and medicines adapted to them.

Inflammatory and nervous fevers may be converted into malignant and putrid, by too hot a regimen, or improper medicines.

The duration of putrid fevers is extremely uncertain; sometimes they terminate between the seventh and fourteenth day, and at other times they are prolonged for five or six weeks. Their duration depends greatly upon the constitution of the patient, and the manner of treating the disease.

The most favourable symptoms are, a gentle looseness after the fourth or fifth day, with a warm mild sweat. These, when

continued for a considerable time, often carry off the fever, and should never be imprudently stopped. Small miliary pustules, appearing between the petechiæ or purple spots, are likewise favourable, as also hot scabby eruptions about the mouth and nose. It is a good sign when the pulse rises upon the use of wine, or other cordials, and the nervous symptoms abate; deafness coming on towards the decline of the fever, is likewise often a favourable symptom,* as are abscesses in the groin, or parotid glands.

Among the unfavourable symptoms may be reckoned an excessive looseness, with a hard swelled belly; large black or livid blotches breaking out upon the skin; apthæ in the mouth; cold clammy sweats; blindness; change of the voice; a wild staring of the eyes; difficulty of swallowing; inability to put out the tongue; and a constant inclination to uncover the breast. When the sweat and saliva are tinged with blood, and the urine is black, or deposits a black sooty sediment, the patient is in great danger. Starting of the tendons, and fœtid, ichorous, involuntary stools, attended with coldness of the extremities, are generally the forerunners of death.

Diet.—In the treatment of this disease, we ought to endeavour, as far as possible, to counteract the putrid tendency of the humours; to support the patient's strength and spirits; and to assist Nature in expelling the cause of this disease, by gently promoting perspiration and the other evacuations.

It has been observed, that putrid fevers are often occasioned by unwholesome air, and of course they must be aggravated by it. Care should, therefore, be taken to prevent the air from stagnating in the patient's chamber, to keep it cool, and renew it frequently, by opening the doors or windows of some adjacent apartment. The breath and perspiration of persons in perfect health soon render the air of a small apartment noxious; but this will sooner happen from the perspiration and breath of a person whose whole mass of humours are in a putrid state.

Besides the frequent admission of fresh air, we would recommend the use of vinegar, verjuice, juice of lemon, Seville orange, or any kind of vegetable acid that can be most readily obtained. These ought frequently to be sprinkled upon the floor, the bed, and every part of the room. They may also be evaporated with a hot iron, or by boiling, &c. The fresh skins of lemons or oranges ought likewise to be laid in different parts of the room, and they should be frequently held to the patient's nose. The use of acids in this manner would not only prove very refreshing to the patient, but would likewise tend to prevent the infection from spreading among those who attend him. Strong-scented herbs, as rue, tansy, rosemary, wormwood, &c. may likewise be laid in different parts of the house, and smelled to by those who go near the patient.

The patient must not only be kept cool, but likewise quiet and easy. The least noise will affect his head, and the smallest fatigue will be apt to make him faint.

* Deafness is not always a favourable symptom in this disease. Perhaps it is only so, when occasioned by abscesses formed within the ears.

Few things are of greater importance in this disease than acids, which ought to be mixed with all the patient's food as well as drink. Orange, lemon, or vinegar-whey, are all very proper, and may be drunk by turns according to the patient's inclination. They may be rendered cordial by the addition of wine in such quantity as the patient's strength seems to require. When he is very low, he may drink negus, with only one half water, and sharpened with the juice of bitter orange or lemon. In some cases a glass of wine may now and then be allowed. The most proper wine is Rhenish; but if the body be open, red port or claret is to be preferred.

When the body is bound, a tea-spoonful of the cream of tartar may be put into a cup of the patient's drink, as there is occasion; or he may drink a decoction of tamarinds, which will both quench his thirst, and promote a discharge by stool.

If camomile-tea will sit upon his stomach, it is a very proper drink in this disease. It may be sharpened by adding to every cup of tea, ten or fifteen drops of the elixir of vitriol.

The food must be light, as panado, or groat-gruel, to which a little wine may be added, if the patient be weak and low; and they ought all to be sharpened with the juice of orange, the jelly of currants, or the like. The patient ought likewise to eat freely of ripe fruits, as roasted apples, currant or gooseberry tarts, preserved cherries, or plums, &c.

Taking a little food or drink frequently, not only supports the spirits, but counteracts the putrid tendency of the humours; for which reason the patient ought frequently to be sipping small quantities of some of the acid liquors mentioned above, or any that may be more agreeable to his palate, or more readily obtained.

If he be delirious, his feet and hands ought to be frequently fomented with a strong infusion of camomile flowers. This, or an infusion of the bark, to such as can afford it, cannot fail to have a good effect. Fomentations of this kind not only relieve the head, by relaxing the vessels in the extremities, but as their contents are absorbed, and taken into the system, they must assist in preventing the putrescency of the humours.

Medical treatment.—If an emetic be given at the beginning of this fever, it will hardly fail to have a good effect; but if the fever has gone on for some days, and the symptoms are violent, vomits are not quite so safe. The body, however, is always to be kept gently open, by clysters, or mild laxative medicines.

Bleeding is seldom necessary in putrid fevers. If there be signs of an inflammation, it may sometimes be permitted at the first onset; but the repetition of it generally proves hurtful.

Blistering-plasters are never to be used unless in the greatest extremities. If the petechiæ or spots should suddenly disappear, the patient's pulse sink remarkably, and a delirium, with other bad symptoms, come on, blistering may be permitted. In this case the blistering plasters are to be applied to the head, and inside of the legs or thighs. But as they are sometimes apt to occasion a gangrene, we would rather recommend warm cataplasms,

or poultices of mustard and vinegar to be applied to the feet, having recourse to blisters only in the utmost extremities.

It is common in the beginning of this fever to give the emetic tartar in small doses, repeated every second or third hour, till it shall either vomit, purge, or throw the patient in a sweat. This practice is very proper, provided it be not pushed so far as to weaken the patient. Much benefit has been derived from the use of the compound spirit of ether.*

In the most dangerous species of this disease, when it is attended with purple, livid, or black spots, the Peruvian bark must be administered. I have seen it, when joined with acids, prove very successful, even in cases where the petechiæ had the most threatening aspect. But to answer this purpose, it must not only be given in large doses, but duly persisted in.

The best method of administering the bark is certainly in substance. An ounce of it in powder may be mixed with half an English pint of water, and the same quantity of red wine, and sharpened with the elixir or the spirit of vitriol, (sulphuric acid,) which will both make it sit easier on the stomach, and render it more beneficial. Two or three ounces of the syrup of lemon may be added; and two table-spoonfuls of the mixture taken every two hours, or oftener, if the stomach is able to bear it.

Those who cannot take the bark in substance, may infuse it in wine, as recommended in the preceding disease; or in any of the annexed forms †

If there be a violent looseness, the bark must be boiled in red wine with a little cinnamon, and sharpened with the elixir of vitriol as above. Nothing can be more beneficial in this kind of looseness than plenty of acids, and such things as promote a gentle perspiration.

If the patient be troubled with vomiting, a drachm of the subcarbonate of potash, dissolved in an ounce and a half of fresh lemon-juice, and made into a draught, with an ounce of simple cinnamon-water, and a bit of sugar, may be given and repeated as often as it is necessary.

If swellings of the glands appear, their suppuration is to be promoted by the application of poultices, ripening cataplasms, &c. and as soon as there is any appearance of matter in them, they ought to be laid open, and the poultices continued.

I have known large ulcerous sores break out in various parts of the body, in the decline of this fever, of a livid gangrenous appearance, and a most putrid cadaverous smell. These gradually healed, and the patient recovered, by a plentiful use of Peruvian bark and wine, sharpened with the vitriolic acid.

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* Take Compound Spirit of Ether, 3 drs.
Strong Camphor mixture, 7 oz.
Make a mixture, and take three table spoonsful every three hours.

† Take decoction of Bark, 1½ ounce.
Tincture of the same 1½ drachm.
Muriatic Acid 5 minims.
Syrup of Orange-peel, 1 drachm.
Make a draught.—To be taken every three or four hours, or oftener.

or

Take soft Extract of Bark, ½ scruple.
Decoct. of Bark, 1½ ounce.
Tinct. of the same, 2 drachms.
Muriatic Acid, 6 minims.
Syrup of Orange-peel, 1 drachm.
Make a draught.—To be taken as above.

A most material circumstance to be attended to both at the commencement of this fever, and during its whole course, is to cover the patient lightly with bed-clothes, and to keep his apartment cool and properly ventilated, by allowing a regular and free admission of fresh air into it; and in order to render it pleasant both to himself and attendants, it ought to be sprinkled several times a-day with warm vinegar and camphorated spirit. Fumigations* will also be advisable. Cleanliness, in the strictest sense of the word, is to be most carefully attended to: and, therefore, the bed and body linen should be frequently changed; and whenever the patient has a motion, it ought to be instantaneously removed.

For preventing putrid fevers, we would recommend a strict regard to cleanliness; a dry situation; sufficient exercise in the open air; wholesome food, and a moderate use of generous liquors. Infection ought, above all things, to be avoided. No constitution is proof against it. I have known persons seized with the putrid fever, by only making a single visit to a patient in it; others have caught it by lodging for one night in a town where it prevailed; and some by attending the funerals of such as died of it.†

When a putrid fever seizes any person in a family, the greatest attention is necessary to prevent the disease from spreading. The sick ought to be placed in a large apartment, as remote from the rest of the family as possible; he ought likewise to be kept extremely clean, and should have fresh air frequently let into his chamber; whatever comes from him should be immediately removed, his linen should be frequently changed, and those in health ought to avoid all unnecessary communication with him.

Any one who is apprehensive of having caught the infection, ought immediately to take an emetic, and to work it off by drinking plentifully of camomile tea. This may be repeated in a day or two, if the apprehensions still continue, or any unfavourable symptoms appear.

The person ought likewise to take an infusion of the bark and camomile flowers for his ordinary drink; and before he goes to bed, he may drink an English pint of pretty strong negus, or a few glasses of generous wine. I have been frequently obliged to

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* The mineral acid gases used in the apartments of the sick, have been found to possess a powerful disinfecting agency. Either the nitric acid, or the muriatic, may be used with this intention, although the latter is thought to be more diffusible than the former. When the preference is given to it, it may be used in the following manner:—Put one pound of common salt into an earthen vessel, and pour over it, from time to time, a small quantity of sulphuric acid, till the whole salt is moistened. If the air be foul, and peculiarly offensive, apply a gentle heat under the vessel, to extricate a larger quantity of vapour; but, in general, the simple addition of the acid to the salt will be found sufficient, unless the apartment is very large.

Perhaps the most effectual way of fumigation, of all others, is the following: although it requires some nicety in the management of it. Take of manganese in powder two parts; one part of common salt, three of sulphuric acid, and one of water. Put an ounce of the mixed manganese and salt into a basin, add a large tea-spoonful of water, then drop in half a teaspoonful of sulphuric acid, and repeat this till you have used a tea-spoonful and a half of the acid. In this manner keep up a suitable extrication of the fumes. Ed.

† The late Sir John Pringle agreed with me, in thinking that a good doctor and a careful nurse were the only necessary attendants; and that all others not only endangered themselves, but generally, by their solicitude and ill-directed care, hurt the sick.

follow this course when malignant fevers prevailed, and have likewise recommended it to others with constant success.

Those who wait upon the sick in putrid fevers, ought always to have a piece of sponge or a handkerchief dipt in vinegar, or juice of lemon, to smell to while near the patient. They ought likewise to wash their hands, and if possible to change their clothes, before they go into company.*

When hemorrhages ensue, and purple or livid spots have appeared on the body of the patient, recourse must be had to the most powerful antiseptics, such as vegetable and mineral acids, carbonic acid in every form, liquors in a state of fermentation, oxygen gas, oxygenated muriates of potash,† aerated waters, wine, cold affusion, bark. Clysters,‡ also, of diluted vinegar, may be administered, &c.

If apthæ arise, the gargles recommended in putrid sore throats.

In this disease as well as in the preceding, the application of cold to the head might probably be advantageously substituted for a blister in those cases where there prevails either coma or delirium, or where there is great pain in the head, with much anxiety and restlessness. Having shaved the head, a large towel, dipped in the coldest water, may be applied all over it, renewing this process frequently until the patient feel relieved, the heat less, and a disposition to tranquil sleep supervenes. This operation may be repeated at short intervals at first, and it will be desirable to do it with such quickness and perseverance as to produce some degree of shivering. In severe cases, the application of powdered ice enclosed in a bladder to the shaven scalp may be substituted.

The exhibition of fixed air has been recommended in this fever by the Rev. Dr. Cartwright, who, having read of the power of fixed air in preserving meat from putrefaction, was induced to make trial of it on a boy fourteen years of age, who had been ill several days of a putrid fever, for which bark and wine had been administered without any apparent advantage, and where there was but little hope of a recovery. He directed two table spoonfuls of yeast to be taken every three hours ; the boy experienced almost immediate relief, and recovered very quickly. The reverend Doctor reports, that he exhibited the same remedy to about fifty patients in this fever without losing one of them.

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* The above description and mode of treatment of the putrid fever are perfectly applicable to what is termed the Yellow Fever, &c. of the havoc made by which in our West India possessions during late years we have heard so much. The yellowness of the skin, although generally considered as a fatal symptom, is an adventitious circumstance, resulting from warmth of climate. In early stages of the yellow fever, smart purges of jalap and calomel, and cooling the surface of the body by ablution with sea-water, or common water mixed with vinegar, is the most efficacious mode of treatment. Keeping the body open and general temperance are the best preventives. Ed.

† Take Oxygenated Muriate of Potash, 1 scrup. to 1 drm.
Tinct. of Orange-peel, 1 drachm.
Cinnamon-water, 1½ ounce.
Syrup of Saffron, 1 drachm.
Make a draught. To be taken every third hour.

or

Take Oxymuriatic Acid, 20 minims.
Decoction of Bark, 1½ ounce.
Tinct. of Bark, 3 drachms.
Make a draught, to be taken as above.

‡ Take Common Vinegar, 3 drachms.
Infusion of Camomile, 5 ounces.
Mix for a clyster.

or

Take Common Salt, ½ ounce.
Vinegar, 2 ounces.
Infusion of Camomile, 6 ounces.
Make a clyster.

In typhus, whatever may be the mode of action of yeast, it appears to be indisputable that fixed air takes off that extreme debility of the stomach, so conspicuously marked in disorders of this nature; and in proportion as that subsides, the pulse rises, becomes slower and fuller, the burning heat on the skin disappears, and a truce is gained for the reception of nutrition.

CHAP. IX.

MILIARY FEVER.

This fever takes its name from the small pustules or bladders which appear on the skin, resembling, in shape and size, the seeds of millet. The pustules are either red or white, and sometimes both are mixed together.

The whole body is sometimes covered with pustules; but they are generally more numerous where the sweat is most abundant, as on the breast, the back, &c. A gentle sweat, or moisture on the skin, greatly promotes the eruption; but when the skin is dry, the eruption is both more painful and dangerous.

Sometimes this is a primary disease; but it is much oftener only a symptom of some other malady, as the small-pox, measles, ardent, putrid, or nervous fever, &c. In all these cases it is generally the effect of too hot a regimen or medicines.

The miliary fever chiefly attacks the idle and the phlegmatic, or persons of a relaxed habit. The young and the aged are more liable to it than those in the vigour and prime of life. It is likewise more incident to women than men, especially the delicate and the indolent, who, neglecting exercise, keep continually within doors, and live upon weak watery diet. Such females are extremely liable to be seized with this disease in childbed, and often lose their lives by it.

Causes.—The miliary fever is sometimes occasioned by violent passions or affections of the mind; as excessive grief, anxiety, thoughtfulness, &c. It may likewise be occasioned by excessive watching, great evacuations, a weak watery diet, rainy seasons, eating too freely of cold, crude, unripe fruit, as plums, cherries, cucumbers, melons, &c. Impure waters, or provisions which have been spoiled by rainy seasons, long keeping, &c. may likewise cause miliary fevers. They may also be occasioned by the stoppage of any customary evacuation, as issues, setons, ulcers, the bleeding piles in men, or the menstrual flux in women, &c.

This disease in childbed-women is sometimes the effect of great costiveness during pregnancy; it may likewise be occasioned by their excessive use of green trash, and other unwholesome things, in which pregnant women are too apt to indulge. But its most general cause is indolence. Such women as lead a sedentary life, especially during pregnancy, and at the same time live grossly,

can hardly escape this disease in childbed. Hence it proves extremely fatal to women of fashion, and likewise to those women in manufacturing towns, who, in order to assist their husbands, sit close within doors for almost the whole of their time. But among women who are active and laborious, who live in the country, and take sufficient exercise without doors, this disease is very little known.

Symptoms.—When this is a primary disease, it makes its attack, like most other eruptive fevers, with a slight shivering, which is succeeded by heat, loss of strength, faintishness, sighing, a low quick pulse, difficulty of breathing, with great anxiety and oppression of the breast. The patient is restless, and sometimes delirious; the tongue appears white, and the hands shake, with often a burning heat in the palms; and in childbed-women the milk generally goes away, and the other discharges stop.

The patient feels an itching or pricking pain under the skin, after which innumerable small pustules of a red or white colour begin to appear. Upon this the symptoms generally abate, the pulse becomes more full and soft, the skin grows moister, and the sweat, as the disease advances, begins to have a peculiar fœtid smell; the great load on the breast, and oppression of the spirits, generally go off, and the customary evacuations gradually return. About the sixth or seventh day from the eruption, the pustules begin to dry and fall off, which occasions a very disagreeable itching in the skin.

It is impossible to ascertain the exact time when the pustules will either appear or go off. They generally come out in the third or fourth day, when the eruption is critical; but when symptomatical, they appear at any time of the disease.

Sometimes the pustules appear and vanish by turns. When that is the case, there is always danger; but when they go in all of a sudden, and do not appear again, the danger is very great.

In childbed-women the pustules are commonly at first filled with clear water; afterwards they grow yellowish. Sometimes they are interspersed with pustules of a red colour. When these only appear, the disease goes by the name of a *rash*.

Regimen.—In all eruptive fevers, of whatever kind, the chief point is to prevent the sudden disappearing of the pustules, and to promote their maturation. For this purpose, the patient must be kept in such a temperature as neither to push out the eruption too fast, nor to cause it to retreat prematurely. The diet and drink ought therefore to be in a moderate degree nourishing and cordial; but neither strong nor heating. The patient's chamber ought neither to be kept too hot nor cold; and he should not be too much covered with clothes. Above all, the mind is to be kept easy and cheerful. Nothing so certainly makes an eruption go in as fear, or the apprehension of danger.

The food must be weak chicken broth, with bread, panado, sago, or groat-gruel, &c. to a gill of which may be added a spoonful or two of wine, as the patient's strength requires, with a few grains of

salt and a little sugar. Good apples, roasted or boiled, with other ripe fruits of an opening cooling nature, may be eaten.

The drink may be suited to the state of the patient's strength and spirits. If these be pretty good, the drink ought to be weak: as water-gruel, balm-tea, or the following decoction.

Take two ounces of the shavings of hartshorn, and the same quantity of sarsaparilla; boil them in two English quarts of water. To the strained decoction add a little white sugar, and let the patient take it for his ordinary drink.

When the patient's spirits are low, and the eruption does not rise sufficiently, his drink must be a little more generous; as wine whey, or small negus, sharpened with the juice of orange or lemon, and made stronger or weaker as circumstances may require.

Sometimes the miliary fever approaches towards a putrid nature, in which case the patient's strength must be supported with generous cordials, joined with acids; and if the degree of putrescence be great, the Peruvian bark must be administered. If the head be much affected, the body must be kept open by emollient clysters.

Medicine.—If the food and drink be properly regulated, there will be little occasion for medicine in this disease. Should the eruption, however, not rise, or the spirits flag, it will not only be necessary to support the patient with cordials, but likewise to apply blistering-plasters. The most proper cordial in this case is good wine, which may either be taken in the patient's food or drink; and if there be signs of putrescence, the bark and acids may be mixed with wine, as directed in the putrid fever.

Some recommend blistering through the whole course of this disease; and where nature flags, and the eruption comes and goes, it may be necessary to keep up a stimulus, by a continual succession of small blistering-plasters; but we would not recommend above one at a time. If, however, the pulse should sink remarkably, the pustules strike in, and the head be affected, it will be necessary to apply several blistering-plasters to the most sensible parts, as the inside of the legs, thighs, &c.

Bleeding is seldom necessary in this disease, and sometimes it does much hurt, as it weakens the patient and depresses his spirits. It is therefore never to be attempted unless by the advice of a physician. We mention this, because it has been customary to treat this disease in child-bed women by plentiful bleeding, and other evacuations, as if it were highly inflammatory. But this practice is generally very unsafe. Patients in this situation bear evacuations very ill. And indeed, the disease seems often to be more of a putrid than of an inflammatory nature.

Though this fever is often occasioned in child-bed women by too hot a regimen, yet it would be dangerous to leave that off all of a sudden, and have recourse to a very cool regimen, and large evacuations. We have reason to believe, that supporting the patient's spirits, and promoting the natural evacuations, is here much safer than to have recourse to artificial ones, as these, by sinking the spirits, seldom fail to increase the danger.

If the disease proves tedious, or the recovery slow, we would

recommend the Peruvian bark, which may either be taken in substance, or infused in wine or water, as the patient inclines.

Great sickness at the stomach is apt to precede any fresh eruptions that come out in the course of the disease, and to prove very distressing. To allay it, small doses of camphor mixture may be frequently given. Where delirium or coma comes on, blisters will be proper. When a retrocession of the eruption takes place, the principal object will be to bring it out again, and keep up a perspiration by means of powerful diaphoretics, as camphor,* ammonia, frictions to the skin, external warmth, bathing the feet in warm water, &c. When any considerable evacuation ensues on a retrocession, we must be careful not to check it hastily. Should convulsions supervene thereon, musk and opium are strongly recommended.

The miliary fever, like other eruptive diseases, requires gentle purging, which should not be neglected, as soon as the fever is gone off, and the patient's strength will permit.

To prevent this disease, a pure dry air, sufficient exercise, and wholesome food, are necessary. Pregnant women should guard against costiveness, and take daily as much exercise as they can bear, avoiding all green trashy fruits, and other unwholesome things; and when in child-bed, they ought strictly to observe a cool regimen.

There is not any fever, in which the symptoms ought to be more carefully watched than in this. The changes are frequent and rapid, and the fever itself often assumes a quite different character. It is, therefore, of the utmost importance upon such occasions to change the regimen and medicines, and adapt them to the new symptoms.

CHAP. X.

BILIOUS FEVER.

When a continual, remitting or unremitting fever is accompanied with a frequent or copious evacuation of bile, either by vomit or stool, the fever is denominated bilious. In Britain the bilious fever generally makes its appearance about the end of summer, and ceases towards the approach of winter. It is most frequent and fatal in warm countries, especially where the soil is marshy, and when great rains are succeeded by sultry heats. Persons who work without doors, lie in camps, or who are exposed to the night-air, are most liable to this kind of fever.

If there be symptoms of inflammation at the beginning of this fever, it will be necessary to bleed, and to put the patient upon the

* Take Camphor, 4 grains. Aromatic Confection, 10 grains.
Compound Powder of Ipecacuanha, 5 grains. Make a bolus.

cool diluting regimen recommended in the inflammatory fever. The saline draught may likewise be frequently administered, and the patient's body kept open by clysters or mild purgatives. But if the fever should remit or intermit, bleeding will seldom be necessary. In this case a vomit may be administered, and, if the body be bound, a gentle purge; after which the Peruvian bark will generally complete the cure.

In case of a violent looseness, the patient must be supported with chicken-broths, jellies of hartshorn, and the like. If a bloody flux should accompany this fever, it must be treated in the manner recommended under the article *Dysentery*.

When there is a burning heat, and the patient does not sweat, that evacuation may be promoted by giving him, three or four times a-day, a table-spoonful of the solution of acetated ammonia, formerly called Mindererus's spirit, mixed in a cupful of his ordinary drink.

If the bilious fever be attended with nervous, malignant, or putrid symptoms, which is sometimes the case, the patient must be treated in the same manner as directed under these diseases.

After this fever, proper care is necessary to prevent a relapse. For this purpose the patient, especially towards the end of autumn, ought to continue the use of the Peruvian bark for some time after he is well. He should likewise abstain from all trashy fruits, new liquors, and every kind of flatulent aliment.

Though few fevers bear bleeding better than that which accompanies the measles, yet the lancet is not to be used at random, and without a strict attention to the progress of the disease. If the symptoms run high, with a full, hard pulse, and other signs of inflammation, bleeding will be proper, but not otherwise.

I have looked at fevers, as well as at other disorders, for many years; yet, were any one to ask me what was good for a fever, I could not tell him without knowing the particulars of the patient's case. There cannot be a grosser error than that of prescribing to the general name of a disease, though thousands of people in the country swallow drugs every day on no better ground.

Nor are the inhabitants of Britain the only dupes to this notion. I had a patient very lately, a young man from a neighbouring kingdom, who, after consulting me for his own complaints, which were chiefly imaginary, requested that I would prescribe for his father and brother, neither of whom I had ever seen. When I told him the absurdity of doing it, he went away, seemingly much disappointed, and, I dare say, with a far lower opinion of my abilities than he had conceived from report.

CHAP. XI.

PLEURISY. (*Pleuritis.*)

The true pleurisy is an inflammation of that membrane called the *pleura*, which lines the inside of the breast. It is distinguish-

ed into the moist and dry. In the former the patient spits freely; in the latter, little or none at all. There is likewise a species of this disease, which is called the *spurious* or *bastard pleurisy (Peripneumonia Notha)* in which the pain is more external, and chiefly affects the muscles between the ribs. The pleurisy prevails among labouring people, especially such as work without doors, and are of a sanguine constitution. It is most frequent in the spring season.

Causes.—The pleurisy may be occasioned by whatever obstructs the perspiration; as cold northerly winds; drinking cold liquors when the body is hot; sleeping without doors on the damp ground; wet clothes; plunging the body into cold water, or exposing it to the cold air, when covered with sweat, &c. It may likewise be occasioned by drinking strong liquors; by the stoppage of usual evacuations, as old ulcers, issues, sweating of the feet or hands, &c.; the sudden striking in of any eruption, as the itch, the measles, or the small-pox. Those who have been accustomed to bleed at a certain season of the year, are apt, if they neglect it, to be seized with a pleurisy. Keeping the body too warm by means of fire, clothes, &c. renders it more liable to this disease. A pleurisy may likewise be occasioned by violent exercise, as running, wrestling, leaping, or by supporting great weight, blows on the breast, &c. A bad conformation of the body renders persons more liable to this disease, as a narrow chest, a straitness of the arteries of the pleura, &c.

Symptoms.—This, like most other fevers, generally begins with chilliness and shivering, which are followed by heat, thirst, and restlessness. To these succeeds a violent pricking pain in one of the sides among the ribs. Sometimes the pain extends towards the back-bone, sometimes towards the fore-part of the breast, and at other times, towards the shoulder-blades. The pain is generally most violent when the patient draws his breath.

The pulse in this disease is commonly quick and hard, the urine high-coloured; and, if blood be let, it is covered with a tough crust, or buffy coat. The patient's spittle is at first thin, but afterwards it becomes grosser, and is often streaked with blood.

Diet.—Nature generally endeavours to carry off this disease by a critical discharge of blood from some part of the body, by expectoration, sweat, loose stools, thick urine, or the like. We ought, therefore, to second her intentions by lessening the force of the circulation, relaxing the vessels, diluting the humours, and promoting expectoration.

For these purposes, the diet, as in the former disease, ought to be cool, slender, and diluting. The patient must avoid all food that is viscid, hard of digestion, or that affords much nourishment; as flesh, butter, cheese, eggs, milk, and also every thing that is of a heating nature. His drink may be whey, or an infusion of pectoral and balsamic vegetables.*

* See Appendix, *Pectoral Infusion.*

Barley-water, with a little honey or jelly of currants, mixed with it, is likewise a very proper drink in this disease. It is made by boiling an ounce of pearl-barley in three English pints of water to two, which must afterwards be strained. The decoction of figs, raisins, and barley, recommended in the preceding disease, is here likewise very proper. These and other diluting liquors are not to be drank in large quantities at a time; but the patient ought to keep continually sipping them, so as to render his mouth and throat always moist. All his food and drink should be taken a little warm.

The patient should be kept quiet, cool, and every way easy, as directed under the foregoing disease. His feet and hands ought daily to be bathed in lukewarm water; and he may sometimes sit up in bed for a short space, in order to relieve his head.

Medicine.—Almost every person knows, when a fever is attended with a violent pain of the side, and a quick hard pulse, that bleeding is necessary. When these symptoms come on, the sooner this operation is performed the better; and the quantity at first must be pretty large, provided the patient be able to bear it. A large quantity of blood let at once in the beginning of a pleurisy, has a much better effect than repeated small bleedings. A man may lose twelve or fourteen ounces of blood as soon as it is certainly known that he is seized with a pleurisy. For a younger person, or one of a delicate constitution, the quantity must be less.

If, after the first bleeding, the pain, with the other violent symptoms, should still continue, it will be necessary, at the distance of twelve or eighteen hours, to take eight or nine ounces more. If the symptoms do not then abate, and the blood shows a strong buffy coat, a third or even a fourth bleeding may be requisite. If the pain of the side abate, the pulse become softer, or the patient begin to spit freely, bleeding ought not to be repeated. This operation is seldom necessary after the third or fourth day of the fever, and ought not then to be performed, unless in the most urgent circumstances.

The blood may be many ways attenuated without bleeding. There are likewise many things that may be done to ease the pain of the side without this operation, as fomenting, blistering, &c. Fomentations may be made by boiling a handful of flowers of elder, camomile, and common mallows, or any other soft vegetables, in a proper quantity of water. The herbs may be either put into a flannel bag, and applied warm to the side, or flannels may be dipped in the decoction, afterwards wrung out and applied to the part affected, with as much warmth as the patient can easily bear. As the clothes grow cool, they must be changed, and great care taken that the patient do not catch cold. A bladder may be filled with warm milk and water, and applied to the side, if the above method of fomenting be found inconvenient. Fomentations not only ease the pain, but relax the vessels, and prevent the stagnation of the blood and other humours. The side may likewise be frequently rubbed with a little of the volatile liniment.

Topical bleeding has often a very good effect in this disease. It

may either be performed by applying a number of leeches to the part affected, or by cupping, which is both a more certain and expeditious method than the other.

Leaves of various plants might likewise be applied to the patient's side with advantage. I have often seen great benefit from young cabbage-leaves applied warm to the side in a pleurisy. These not only relax the parts, but likewise draw off a little moisture, and may prevent the necessity of blistering-plasters; which, however, when other things fail, must be applied.

If the pain continue after repeated bleedings, fomentations, &c. a blistering-plaster must be applied over the part affected, and suffered to remain for two days. This not only procures a discharge from the side, but takes off the spasm, and by that means assists in removing the cause of the disease. To prevent a strangury when the blistering-plaster is on, the patient may drink freely of the Arabic emulsion.*

If the patient be costive, a clyster of thin water-gruel, or of barley-water, in which a handful of mallows, or any other emollient vegetable has been boiled, may be daily administered. This will not only empty the bowels, but have the effect of a warm fomentation applied to the inferior viscera, which will help to make a derivation from the breast.

The expectoration may be promoted by sharp, oily, and mucilaginous medicines.† For this purpose, an ounce of the oxymel, or the vinegar of squills, may be added to six ounces of the pectoral decoction, and two table-spoonsful of it taken every two hours.

Should the squill disagree with the stomach, the oily emulsion may be administered; or, in place of it, two ounces of the oil of sweet almonds, or oil of olives, and two ounces of the syrup of violets, may be mixed with as much sugar-candy powdered as will make an electuary of the consistence of honey. The patient may take a tea-spoonful of this frequently, when the cough is troublesome. Should oily medicines prove nauseous, which is sometimes the case, two table-spoonsful of the solution of gum ammoniac in barley-water, may be given three or four times a-day. Expectoration, and a determination to the skin, may also be promoted by small nauseating doses of antimonials, taking care, however, not to excite vomiting; but assisting their action by frequent small draughts of some mild diluent liquor, as barley water, or thin gruel, &c.‡

If the patient do not perspire, but has a burning heat upon his

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* See Appendix.

† Take Oil of Sweet Almonds, 1 ounce.
Syrup of Marsh-mallows, ½ ounce.
Mucilage of Gum Arabic, 2 ounces.
Pure Water, 3 ounces.
Solution of the Subcarbonate of Ammonia, ½ drachm
Make a Mixture.

or

Take best Olive Oil, 1 ounce.
Mucilage of Gum Arabic, 2 ounces.
Oxymel of Squills, 3 drachms.
Subcarbonate of Ammonia, 1 scruple.
Make a mixture; of which take a little often, or during the urgency of the cough.

‡ Take Emetic Tartar, 2 grains.
Distilled Water, 8 ounces.
Take two table-spoonsful every three or four hours.

skin, and passes very little water, some small doses of purified nitre and camphor will be of use. Two drachms of the former may be rubbed with five or six grains of the latter in a mortar, and the whole divided into six doses, one of which may be taken every five or six hours, in a little of the patient's ordinary drink.

We shall only mention one medicine more, which some reckon almost a specific in the pleurisy, viz. the decoction of the seneka rattle-snake root.* After bleeding and other evacuations have been premised, the patient may take two, three, or four table-spoonsful of this decoction, according as the stomach will bear it, three or four times a-day. If it should occasion vomiting, two or three ounces of simple cinnamon-water may be mixed with the quantity of decoction here directed; or it may be taken in smaller doses. As this medicine promotes perspiration and urine, and likewise keeps the body easy, it may be of some service in a pleurisy, or any other inflammation of the breast.

When the skin is very hot and dry, saline draughts,† or solution of acetated ammonia, may be administered with advantage. To allay pain, ease the cough, stop diarrhœa, when it arises, or procure sleep, we may employ opium.‡

If the bowels require evacuation, strong purgatives ought not to be given; but gentle aperients, of a cooling nature, should be used, particularly at the commencement of the disease. For this purpose Epsom salts,§ and manna, in an infusion of senna, or castor oil, will be the most proper; and, as opiates evidently tend to check expectoration, which it is desirable to promote, they ought, if possible, to be avoided; but if absolutely necessary, from the exhausted state of the patient for want of sleep, they may be given, combined with some diaphoretic; *e. g.* the compound powder of ipecacuanha, ten grains, &c. If the patient's strength be much exhausted by the disease, it will be necessary at this time to support him with frequent small draughts of wine-whey, negus, or the like.

When the pain and fever are gone, it will be proper, after the patient has recovered sufficient strength, to give him some gentle purges, as those directed towards the end of an acute continual fever. He ought likewise to use a light diet of easy digestion, and his drink should be butter-milk, whey, and other things of a cleansing nature.

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* See Appendix, *Decoction of Seneka Root.*

† Take Lemon juice, 1½ ounce.
Subcarbonate of Potash, 1 drachm.
Mint Water, 1 ounce.
Pure Water, 3 ounces.
Nitrate of Potash, 1 drachm.
Syrup of Tolu, ½ ounce.
Make a mixture, of which the dose may be three table-spoonsful every four hours.

‡ Take Solution of Acetated Ammonia, 3 drachms.
Mint Water, 1 ounce.
Tincture of Opium, 25 minims.
Syrup of Tolu, 2 drachms.
Antimony Wine, 12 drops.
Make a draught.

§ Take Epsom Salts, 2 drachms.
Manna, 3 drachms.
Infusion of Senna, 1½ ounce.
Make an aperient draught.

SPURIOUS PERIPNEUMONY, OR BASTARD PLEURISY.
(Peripneumonia Notha.)

THAT species of pleurisy which is called the *bastard*, or spurious, generally goes off by keeping warm for a few days, drinking plenty of diluting liquors, and observing a cooling regimen.

It is known by a dry cough, a quick pulse, and a difficulty of lying on the affected side; which last does not always happen in the true pleurisy. Sometimes, indeed, this disease proves obstinate, and requires bleeding, with cupping, and scarifications of the part affected. These, together with the use of nitrous and other cooling medicines, seldom fail to effect a cure. Blistering is often useful in this disease, to relieve the difficulty of breathing, and oppression at the chest; and if nausea prevail, a gentle emetic may be prescribed. We may be satisfied with the use of antimonials, as in the true peripneumony.

Through the whole course of the disease the antiphlogistic regimen will be proper. Where great debility prevails, or where the patient has been accustomed to a free use of fermented liquors, a small quantity of wine will be admissible.

PARAPHRENITIS.

THE *paraphrenitis*, or inflammation of the diaphragm, is so nearly connected with the pleurisy, and resembles it so much in the manner of treatment, that it is scarcely necessary to consider it as a separate disease.

It is attended with a very acute fever, and extreme pain in the part affected, which is generally augmented by coughing, sneezing, drawing in the breath, taking food, going to stool, making water, &c. Hence the patient breathes quick, and draws in his bowels to prevent the motion of the diaphragm; is restless, anxious, has a dry cough, a hiccup, and often a delirium. A convulsive laugh, or rather a kind of involuntary grin, is no uncommon symptom of this disease.

Every method must be taken to prevent a suppuration, as it is impossible to save the patient's life when this happens. The regimen and medicine are in all respects the same as in the pleurisy. We shall only add that, in this disease, emollient clysters are peculiarly useful, as they relax the bowels, and by that means, make a derivation from the part affected.

Considering *bronchitis*, or inflammation of the bronchia, or air-cells of the lungs, as only a milder species of pneumonic inflammation, and requiring a somewhat similar treatment as inflammatory sore throat, and pneumonia or inflammation of the lungs, it has not been deemed necessary to notice it under a distinct head.

As regards *carditis*, or inflammation of the heart; *pericarditis*, or inflammation of the *pericardium;* and *diaphragmitis*, or inflammation of the diaphragm, they are, on many occasions, scarcely to be distinguished from inflammation of the lungs, and probably are, for the most part, combined with it; and the treatment happily is the same, with this difference, however, that as the parts affected are immediately necessary to life, the means of cure must be employed with diligence and despatch.

CHAP. XII.

PERIPNEUMONY, OR INFLAMMATION OF THE LUNGS.
(Pneumonia.)

As this disease affects an organ which is absolutely necessary to life, it must always be attended with danger. Persons who abound with thick blood, whose fibres are tense and rigid, who feed upon gross aliment and drink strong viscid liquors, are most liable to a peripneumony. It is generally fatal to those who have a flat breast, or narrow chest, and to such as are afflicted with an asthma, especially in the decline of life. Sometimes the inflammation reaches to one lobe of the lungs only, at other times the whole of the organ is affected, in which case the disease can hardly fail to prove fatal.

When the disease proceeds from a viscid pituitous matter obstructing the vessels of the lungs, it is called a *spurious* or *bastard peripneumony*. When it arises from a thin acrid defluction on the lungs, it is denominated a *catarrhal peripneumony*, &c.

Causes.—An inflammation of the lungs is sometimes a primary disease, and sometimes it is the consequence of other diseases, as a quinsey, a pleurisy, &c. It proceeds from the same causes as the pleurisy, *viz.* an obstructed perspiration from cold, wet clothes, &c., or from an increased circulation of the blood by violent exercise, the use of spiceries, ardent spirits, and such like. The pleurisy and peripneumony are often complicated; in which case the disease is called *pleuroperipneumony*.

Symptoms.—Most of the symptoms of a pleurisy likewise attend an inflammation of the lungs; only in the latter the pulse is more soft, and the pain less acute; but the difficulty of breathing, and oppression of the breast, are generally greater.

Diet.—As the regimen and medicine are in all respects the same in the true peripneumony as in the pleurisy, we shall not here repeat them, but refer the reader to the treatment of that disease. It may not, however, be improper to add, that the aliment ought to be more slender and thin in this than in any other inflammatory disease. The learned Dr. Arbuthnot asserts, that even common whey is sufficient to support the patient, and that decoction of barley, and infusions of fennel-roots in warm water with milk, are the most proper both for drink and nourishment. He likewise recommends the steam of warm water taken in by the breath, which serves as a kind of internal fomentation, and helps to attenuate the impacted humours. If the patient have loose stools, but is not weakened by them, they are not to be stopped, but rather promoted by the use of emollient clysters.

It has already been observed, that the *spurious* or *bastard* peripneumony is occasioned by a viscid pituitous matter obstructing

the vessels of the lungs. It commonly attacks the old, infirm, and phlegmatic, in winter and wet seasons.

The patient at the beginning is cold and hot by turns, has a small quick pulse, feels a sense of weight upon his breast, breathes with difficulty, and sometimes complains of a pain and giddiness of his head. His urine is usually pale, and his colour very little changed.

The diet, in this as well as in the true peripneumony, must be very slender, as weak broths, sharpened with the juice of orange or lemon, and such like. His drink may be thin water-gruel sweetened with honey, or a decoction of the roots of fennel, liquorice, and quick grass. An ounce of each of these may be boiled in three English pints of water to a quart, and sharpened with a little currant-jelly, or the like.

Bleeding and purging are generally proper at the beginning of this disease; but if the patient's spittle be pretty thick, or well concocted, neither of them are necessary. It will be sufficient to assist the expectoration by some of the sharp medicines recommended for that purpose in the pleurisy, as the solution of gum ammoniac with oxymel of squills, &c. Blisters have generally a good effect, and ought to be applied pretty early.

If the patient do not spit, he must be bled, according as his strength will permit, and have a gentle purge administered. Afterwards his body may be kept open by clysters, and the expectoration promoted, by taking every four hours two table spoonsful of the solution mentioned above, or any of those mentioned under pleurisy, &c.

When an inflammation of the breast does not yield to bleeding, blistering, and other evacuations, it commonly ends in suppuration, which is more or less dangerous, according to the part where it is situated. When this happens in the pleura, it sometimes breaks outwardly, and the matter is discharged by the wound.

When the suppuration happens within the substance or body of the lungs, the matter may be discharged by expectoration; but if the matter floats in the cavity of the breast, between the pleura and the lungs, it can only be discharged by an incision made betwixt the ribs.

If the patient's strength do not return after the inflammation is to all appearance removed; if his pulse continue quick though soft, his breathing difficult and oppressed; if he have cold shiverings at times, his cheeks flushed, his lips dry; and if he complain of thirst and want of appetite, there is reason to fear a suppuration, and that a phthisis, or consumption of the lungs, will ensue. We shall, therefore, next proceed to consider the proper treatment of that disease.

CHAP. XIII.

PHTHISIS, OR PULMONARY CONSUMPTION.

(Phthisis pulmonalis.)

A CONSUMPTION is a wasting or decay of the whole body, from an ulcer, tubercles, or concretion of the lungs, an empyema, a nervous atrophy, or cachexy.

Dr. Arbuthnot observes, that in his time consumptions made up above one tenth part of the bills of mortality in and about London. There is reason to believe they have rather increased since; and we know from experience, that they are not less fatal in some other towns of England than in London.

Young persons, between the age of fifteen and thirty, of a slender make, long neck, high shoulders, and flat breasts, are most liable to this disease.

Consumptions prevail more in England than in any other part of the world, owing, perhaps, to the great use of animal food and malt liquors, the general application to sedentary employments, and the great quantity of pit-coal which is there burnt; to which we may add, the perpetual changes in the atmosphere, or variableness of the weather.

CAUSES.—It has already been observed, that an inflammation of the breast often ends in an imposthume: consequently whatever disposes people to this disease must likewise be considered as a cause of consumption.

Other diseases, by vitiating the habit, may likewise occasion consumptions: as the scurvy, the scrophula, or king's-evil, the venereal disease, the asthma, small-pox, measles, &c.

As this disease is seldom cured, we shall endeavour the more particularly to point out its causes, in order that people may be enabled to avoid it. These are:

—— Confined or unwholesome air; when this fluid is impregnated with the fumes of metals or minerals, it proves extremely hurtful to the lungs, and often corrodes the tender vessels of that necessary organ.

—— Violent passions, exertions, or affections of the mind; as grief, disappointment, anxiety, or close application to the study of abstruse arts or sciences.

—— Great evacuations; as sweating, diarrhœas, diabetes, excessive venery, the fluor-albus, over-discharge of the menstrual flux, giving suck too long, &c.

—— The sudden stoppage of customary evacuations; as the bleeding piles, sweating of the feet, bleeding at the nose, the menses, issues, ulcers, or eruptions of any kind.

—— Injuries done to the lungs, calculi, &c. I lately saw the symptoms of a phthisis occasioned by a small bone sticking in the *bronchiæ*. It was afterwards vomited along with a considerable quantity of purulent matter, and the patient, by a proper regimen and the use of the Peruvian bark, recovered.

—— Making a sudden transition from a hot to a very cold climate, change of apparel, or whatever greatly lessons the perspiration.

—— Frequent and excessive debaucheries. Late watching, and drinking strong liquors, which generally go together, can hardly fail to destroy the lungs. Hence the *bon companion* generally falls a sacrifice to this disease.

—— Infection. Consumptions are likewise caught by sleeping with the diseased; for which reason this should be carefully avoided. It cannot be of great benefit to the sick, and must hurt those in health.

—— Occupations in life. Those artificers who sit much, and are constantly leaning forward, or pressing upon the stomach and breast, as cutlers, taylors, shoemakers, sempstresses, &c. often die of consumptions. They likewise prove fatal to singers, and all who have occasion to make frequent and violent exertions of the lungs.

—— Cold. More consumptive patients date the beginning of their disorders from wet feet, damp beds, night air, wet clothes, or catching cold after the body has been heated, than from all other causes.

Sharp, saline, and aromatic aliments, which heat and inflame the blood, are likewise frequently the cause of consumptions.

We shall only add, that this disease is often owing to an hereditary taint, or a scrophulous habit; in which case it is generally incurable.

Symptoms.—This disease generally begins with a dry cough, which often continues for some months. If a disposition to vomit after eating be excited by it, there is still greater reason to fear an approaching consumption. The patient complains of a more than usual degree of heat, a pain and oppression of the breast, especially after motion; his spittle is of a saltish taste, and sometimes mixed with blood. He is apt to be sad; his appetite is bad, and his thirst great. There is generally a quick, soft, small pulse; though sometimes the pulse is pretty full, and rather hard. These are the common symptoms of a beginning consumption.

Afterwards the patient begins to spit a greenish white, or bloody matter. His body is extenuated by the hectic fever and colliquative sweats, which mutually succeed one another, viz. the one towards night, and the other in the morning. A looseness, and an excessive discharge of urine, are often troublesome symptoms at this time, and greatly weaken the patient. There is a burning heat in the palms of the hands, and the face generally flushes after eating; the fingers become remarkably small, the nails are bent inwards, and the hairs fall off.

At last the swelling of the feet and legs, the total loss of strength, the sinking of the eyes, the difficulty of swallowing, and the coldness of the extremities, show the immediate approach of death, which, however, the patient seldom believes to be so near. Such is the usual progress of this fatal disease, which, if not early checked, commonly sets all medicine at defiance.

REGIMEN.—On the first appearance of a consumption, if the patient live in a large town, or any place where the air is confined, he ought immediately to quit it, and to make choice of a situation in the country, where the air is pure and free. Here he must not remain inactive, but take every day as much exercise as he can bear.

The best method of taking exercise is to ride on horseback, as this gives the body a great deal of motion without much fatigue. Such as cannot bear this kind of exercise, must make use of a carriage. A long journey, as it amuses the mind by a continual change of objects, is greatly preferable to riding the same ground over and over. Care, however, must be taken to avoid catching cold from wet clothes, damp beds, or the like. The patient ought always to finish his ride in the morning, or at least before dinner; otherwise it will oftener do harm than good.

It is pity those who attend the sick seldom recommend riding in this disease, till the patient is either unable to bear it, or the malady has become incurable. Patients are likewise apt to trifle with every thing that is in their own power. They cannot see how one of the common actions of life should prove a remedy in an obstinate disease, and therefore they reject it, while they greedily hunt after relief from medicine, merely because they do not understand it.

Those who have strength and courage to undertake a pretty long voyage, may expect great advantage from it. This to my knowledge has frequently cured a consumption after the patient was, to all appearance, far advanced in that disease, and where medicine had proved ineffectual. Hence it is reasonable to conclude, that if a voyage were undertaken in due time, it would seldom fail to perform a cure.*

Such as try this method of cure ought to carry as much fresh provisions along with them as will serve for the whole time they are at sea. As milk is not easily obtained in this situation, they ought to live upon fruits, and the broth of chickens, or other young animals which can be kept alive on board. It is scarcely necessary to add, that such voyages should be undertaken, if possible, in the mildest season, and that they ought to be towards a warmer climate.†

Those who have not courage for a long voyage may travel into a more southern climate, as the south of France, Spain, or Portugal; and if they find the air of these countries agree with them, they should continue there at least till their health be confirmed.

Next to proper air and exercise, we would recommend a due attention to diet. The patient should eat nothing that is either heating or hard of digestion, and his drink must be of a soft and

* Two things chiefly operate to prevent the benefits which would arise from sailing. The one is, that physicians seldom order it till the disease is too far advanced; and the other is, that they seldom order a voyage of a sufficient length. A patient may receive no benefit by crossing the channel, who, should he cross the Atlantic, might be completely cured. Indeed we have reason to believe, that a voyage of this kind, if taken in due time, would seldom fail to cure a consumption.

† Though I do not remember to have seen one instance of a genuine consumption of the lungs cured by medicine, yet I have known a West-India voyage work wonders in that dreadful disorder.

cooling nature. All the diet ought to be calculated to lessen the acrimony of the humours, and to nourish and support the patient. For this purpose he must keep chiefly to the use of vegetables and milk. Milk alone is of more value in this disease than the whole *materia medica.*

Asses' milk is commonly reckoned preferable to any other; but it cannot always be obtained; besides, it is generally taken in a very small quantity; whereas, to produce any effects, it ought to make a considerable part of the patient's diet. It is hardly to be expected, that a gill or two of asses' milk, drank in the space of twenty-four hours, should be able to produce any considerable change in the humours of an adult; and when people do not perceive its effects soon, they lose hope, and so leave it off. Hence it happens, that this medicine, however valuable, very seldom performs a cure. The reason is obvious; it is commonly used too late, is taken in too small quantities, and is not duly persisted in.

I have known very extraordinary effects from asses' milk in obstinate coughs, which threatened a consumption of the lungs; and do verily believe, if used at this period, that it would seldom fail; but if it be delayed till an ulcer is formed, which is generally the case, how can it be expected to succeed?

Asses' milk ought to be drunk, if possible, in its natural warmth, and, by a grown person, in the quantity of half an English pint at a time. Instead of taking this quantity night and morning only, the patient ought to take it four times, or at least thrice a-day, and to eat a little light bread along with it, so as to make it a kind of meal.

If the milk should happen to purge, it may be mixed with old conserve of roses. When that cannot be obtained, the powder of crabs' claws may be used in its stead. Asses' milk is usually ordered to be drunk warm in bed; but as it generally throws the patient into a sweat when taken in this way, it would perhaps be better to give it after he rises.

Some extraordinary cures in consumptive cases have been performed by women's milk. Could this be obtained in sufficient quantity, we would recommend it in preference to any other. It is better if the patient can suck it from the breast, than to drink it afterwards. I knew a man who was reduced to such a degree of weakness in a consumption, as not to be able to turn himself in bed. His wife was at that time giving suck, and the child happening to die, he sucked her breasts, not with a view to reap any advantage from the milk, but to make her easy. Finding himself, however, greatly benefited by it, he continued to suck her till he became perfectly well, and is at present a strong and healthy man.

Some prefer butter-milk to any other, and it is indeed a very valuable medicine, if the stomach be able to bear it. It does not agree with every person at first; and is, therefore, often laid aside without a sufficient trial. It should at first be taken sparingly, and the quantity gradually increased, until it comes to be almost the sole food. I never knew it succeed, unless where the patient almost lived upon it.

Cows' milk is most readily obtained of any, and though it be not

so easily digested as that of asses or mares, it may be rendered lighter, by adding it to an equal quantity of barley-water, or allowing it to stand for some hours, and afterwards taking off the cream. If it should, notwithstanding, prove heavy on the stomach, a small quantity of brandy or rum, with a little sugar, may be added, which will render it both more light and nourishing.*

It is not to be wondered, that milk should for some time disagree with a stomach that has not been accustomed to digest any thing but flesh and strong liquors, which is the case with many of those who fall into consumptions. We do not, however, advise those who have been accustomed to animal food and strong liquors, to leave them off all at once. This might be dangerous. It will be necessary for such to eat a little once a-day of the flesh of some young animal, or rather to use the broth made of chickens, veal, lamb, or such like. They ought likewise to drink a little wine made into negus, or diluted with twice or thrice its quantity of water, and to make it gradually weaker till they can leave it off altogether.

These must be used only as preparatives to a diet consisting chiefly of shell-fish, of milk and vegetables, which the sooner the patient can be brought to bear, the better. Rice and milk, or barley and milk, boiled with a little sugar, is very proper food. Ripe fruits, roasted, baked, or boiled, are likewise proper, as goose or currant-berry tarts, apples roasted, or boiled in milk, &c. The jellies, conserves, and preserves, &c. of ripe subacid fruits, ought to be eaten plentifully, as the jelly of currants, conserve of roses, preserved plums, cherries, &c.

Wholesome air, proper exercise, and a diet consisting chiefly of these and other vegetables, with milk, is the only course that can be depended on in a beginning consumption. If the patient has strength and sufficient resolution to persist in this course, he will seldom be disappointed of a cure.

In a populous town of England,† where consumptions are very common, I have frequently seen consumptive patients, who had been sent to the country with orders to ride and live upon milk and vegetables, return in a few months quite plump, and free from any complaint. This indeed was not always the case, especially when the disease was hereditary, or far advanced; but it was the only method in which success was to be expected; where it failed, I never knew medicine succeed.

If the patient's strength and spirits flag, he must be supported by strong broths, jellies, and such like. Some recommend shell-fish in this disorder, and with some reason, as they are nourishing and restorative.‡ All the food and drink ought, however, to be taken in small quantities, lest an overcharge of fresh chyle should oppress the lungs, and too much accelerate the circulation of the blood.

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* In Russia, it is common for consumptive persons to migrate into Tartary, where, by living wholly on a fermented preparation of mares' milk, termed *koumiss*, they very generally recover even from the last stages of this disease.

† Sheffield.

‡ I have often known persons of a consumptive habit, where the symptoms were no violent, reap great benefit from the use of oysters. They generally ate them raw, and drank the juice along with them.

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recommend acid vegetables to be taken in as great quantity as the stomach will bear them.

During the first or inflammatory stage of the complaint, it will be advisable, in conformity with the antiphlogistic plan, to employ gentle laxatives, should the bowels be costive, with occasional gentle emetics, &c. When there is any febrile heat, with a cough or pain in the chest, diaphoretics may be given, such as a small dose (one eighth of a grain) of tartarized antimony, or the powder of antimony, two or three times a-day, together with the saline mixture and nitre, as recommended in peripneumony.

For the patient's drink, we would recommend demulcent drinks;* infusions of the bitter plants, as ground-ivy, the lesser centaury, camomile flowers, or water trefoil.† These infusions may be drank at pleasure. They strengthen the stomach, promote digestion, and at the same time answer all the purposes of dilution, and quench thirst much better than things that are luscious or sweet. But if the patient spit blood, he ought to use, for his ordinary drink, infusions or decoctions of the vulnerary roots, plants, &c.‡

There are many other mucilaginous plants and seeds, of a healing and agglutinating nature, from which decoctions or infusions may be prepared with the same intention; as the orches, the quince-seed, coltsfoot, linseed, sarsaparilla, &c. It is not necessary to mention the different ways in which these may be prepared. Simple infusion or boiling is all that is necessary, and the dose may be at discretion.

The confection of roses is here peculiarly proper. It may either be put into the decoction above prescribed, or eaten by itself. No benefit is to be expected from trifling doses of this medicine. I never knew it of any service, unless when three or four ounces at least were used daily for a considerable time. In this way I have seen it produce very happy effects, and would recommend it wherever there is a discharge of blood from the lungs.

Where a disposition to consumption arises in consequence of any enfeebling evacuation, such as a considerable abscess, fluor albus, or the like, without any inflammation of the lungs having yet taken place, cinchona will be serviceable, and may be given as advised below.§ After inflammation has come on, or ulceration has commenced, it would not fail to prove injurious, by increasing the cough with the tightness at the chest and oppressive breathing.

When it is evident that there are vomicæ or tubercles in the lungs, and the matter can neither be spit up nor carried off by absorption, the patient must endeavour to make it break inwardly,

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* Take Decoction of Barley, 2 pints.
Gum Arabic, 3 drachms.
Syrup of Lemons, 1½ ounce.
Mix them for an ordinary drink.

† The decoction of lichen Islandicus may be used with great advantage as a drink; its bitterness strengthens the stomach, while the mucilage it contains, renders it highly nutritious. Ed.

‡ Take Decoction of Bark, 5 ounces.
Solution of acetated Ammonia, 1 ounce.
Make a mixture.

or

Take Subcarbonate of Potash, 2 scruples.
Decoction of Bark, 5 ounces.
Lemon Juice, 1 ounce.
Make a mixture; of which two table spoonsful may be given two or three times a-day.

by drawing in the steams of warm water or vinegar with his breath, coughing, laughing, or bawling aloud, &c. When it happens to burst within the lungs, the matter may be discharged by the mouth. Sometimes, indeed, the bursting of the vomicæ occasions immediate death, by suffocating the patient. When the quantity of matter is great, and the patient's strength exhausted, this is commonly the case. At any rate, the patient is ready to fall into a swoon, and should have volatile salts or spirits held to his nose. If the matter discharged be thick, and the cough and breathing become easier, there may be some hopes of a cure. The diet at this time ought to be light, but restorative, as chicken-broths, sago-gruel, rice-milk, &c., the drink, butter-milk or whey, sweetened with honey.

In the second, or tuberculated stage of the disease, the employment of emetics might be regularly persisted in every second or third morning; the sulphate of zinc is preferred; and the sulphate of copper is recommended by Senter, in the transactions of the college of Philadelphia, and by Adair, in the medical commentaries, in doses from seven to ten grains each, made into pills, &c.

As detergents, balsamics of different kinds have been much used in the ulcerated stage. Balsam of Copaiva, in the dose of twenty to thirty drops, twice or thrice a day, may be tried. Myrrh, however, is the medicine employed with the greatest success in those cases of hectic fever which are unattended by any great degree of heat or thirst, and which do not show manifest signs of inflammation. The preparation used by the late Dr. Moses Griffiths* seems to be preferable to all others. If at any time it should be thought too heating, the spirituous water may be omitted, as the solution may be made without it; although it is doubted whether it will agree so well with the stomach in general. A proper dose, (ten to fifteen drops of the tincture of foxglove,) may be added to each of the draughts, and to be given together.

If the vomicæ or tubercles should discharge themselves into the cavity of the breast, between the pleura and the lungs, there is no way of getting the matter out, but by an incision, as has already been observed. As this operation must always be performed by a surgeon, it is not necessary here to describe it. We shall only add, that it is not so dreadful as people are apt to imagine, and that it is the only chance the patient in this case has for his life.

With regard to the remedies usually employed in the treatment of phthisis, Dr. Ferriar has observed that the digitalis (fox-glove,) with the sulphate of iron, myrrh, bark, and other tonics, may be most proper in those cases of consumption which arise from scrophula; while the digitalis with opium, mucilaginous medicines, and diuretics, may be opposed to the floria consumption.

Dr. Crichton, of Petersburgh, in the tuberculous or true scrophulous phthisis, has seen much benefit derived from the use of the tar fumigations.

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* Take Myrrh, 1 drachm.
Dissolve in a mortar with
Spirit of Pimento, 6 drachms.
Distilled Water, 6½ drachms.
Then add,
Subcarbonate of Potash, ½ drm
Sulphate of Iron, 12 grains.
Syrup, 2 drachms.
Mix, and divide into four draughts, one of which is to be taken every morning, another at five in the evening, and another at bed time

It would serve little purpose here to recapitulate the many articles recommended by various practitioners in the treatment of pulmonary consumptions, such as fixed airs, Prussic acid, conium, foxglove, uva, ursi, &c. It does not follow that any of them have any decided influence over the disease, and are more embarrassing to the practitioner than beneficial to the patient. If confirmed phthisis were to be cured, it must be effected principally, if not solely, by dietetic means and change of climate.

A NERVOUS CONSUMPTION, or ATROPHY, is a wasting or decay of the whole body, without any considerable degree of fever, cough, or difficulty of breathing. It is attended with indigestion, weakness, want of appetite, &c.

Those who are of a fretful temper, who indulge in spirituous liquors, or who breathe an unwholesome air, are most liable to this disease.

We would chiefly recommend, for the cure of a nervous consumption, a light and nourishing diet, plenty of exercise in a free open air, and the use of such bitters as brace and strengthen the stomach; as the Peruvian bark, gentian-root, camomile, horehound, &c. These may be infused in water or wine, and a glass of it drank frequently.

It will greatly assist the digestion, and promote the cure of this disease, to take, twice a-day, twenty or thirty drops of the elixir of vitriol in a glass of wine or water.* The chalybeate wine is likewise an excellent medicine in this case; it strengthens the solids, and powerfully assists Nature in the preparation of good blood.

Agreeable amusements, cheerful company, and riding about, are, however, preferable to all medicines in this disease. For which reason, when the patient can afford it, we would recommend a long journey of pleasure, as the most likely means to restore his health.

What is called a *symptomatic consumption*, cannot be cured without first removing the disease by which it is occasioned. Thus, when a consumption proceeds from the scrophula, or king's evil, from the scurvy, the asthma, the venereal disease, &c. a due attention must be paid to the malady from whence it arises, and the regimen and medicine directed accordingly.

When *excessive evacuations* of any kind occasion a consumption, they must not only be restrained, but the patient's strength must be restored by gentle exercise, nourishing diet, and generous cordials. Young and delicate mothers often fall into consumptions, by giving suck too long. As soon as they perceive their strength and appetite begin to fail, they ought immediately to wean the child, or provide another nurse, otherwise they cannot expect a cure.

Before we quit this subject, we would earnestly recommend it to all, as they wish to avoid consumptions, to take as much exercise without doors as they can, to avoid unwholesome air, and to study sobriety. Consumptions owe their present increase not a

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* See Appendix, *Chalybeate Wine*.

little to the fashion of sitting up late, eating hot suppers, and spending every evening over a bowl of punch, or other strong liquors. These liquors, when too freely used, not only hurt the digestion, and spoil the appetite, but heat and inflame the blood, and set the whole constitution on fire.

In tracing the various causes of consumption, I entered into minute details, to put people more upon their guard, as the disease, when deeply seated, seldom admits of a cure. Not but there are plenty of persons in London who confidently undertake to perform cures in the most hopeless stages of the complaint, though physicians have not been so happy as to find out the art. Perhaps the only art which the others have discovered, or which they have ever studied, is the art of impudence and deception.

But to return to my former argument: as consumptions seldom admit of a cure, the utmost care should be exerted to avoid them. The best general caution I can give is to guard against catching cold, the fruitful mother of consumptions, and of many other disorders. How this is to be done, will be more fully explained when I come to treat of colds and coughs, the bane of this island, and the source of numberless diseases, especially among the young, gay, and thoughtless part of the community, who have no fear of any ill until it overtakes them, when it is generally too late to prevent the fatal consequences.

ON THE MEANS OF PREVENTING PULMONARY CONSUMPTION.

Human beings are so constituted that they can exist but for a very short space of time without inhaling a fresh portion of atmospheric air. The uninterrupted repetition of this process, which is absolutely requisite for the support of life, implies a perpetual state of activity in the organs by means of which it is carried on. This alternate state of dilatation and contraction of the lungs necessarily forms a great impediment to the cure of any wound or ulceration taking place in their substance, by the same process employed by Nature to heal injuries in other parts of the living body, which admit of a temporary state of quietude and repose. The slightest degree of diseased action occurring in an organ so essentially important to the maintenance of existence, is sufficient to create alarm, which our melancholy experience of the inefficacy of the art of medicine to remove chronic affections of the organs of respiration has no tendency to diminish. A single opportunity of inspecting the state of the lungs of a person dead of pulmonary consumption, might, I have frequently thought, suffice to correct the pretensions of those who propose to cure the disease after it is confirmed, by the administration of medicine. But the impracticability of a cure ought to render us proportionably more attentive to the means of prevention, from which much may be expected, provided they are employed at a sufficiently early period.

Pulmonary consumption may be divided into two kinds, which it is of importance, even in a prophylactic point of view, to discriminate from each other.—The lungs may be injured by a blow, or pierced by a wound. Inflammation may take place in them from over-exertion, in consequence of the stoppage of some custom-

ary evacuation, or from exposure to cold, giving rise to pleurisy or peripneumony; and these diseases may terminate in consumption in persons who have no natural predisposition to that complaint. This species of the disease may be termed symptomatic, and occasionally admits of being cured, by removing the cause from whence it originated. Sometimes, when an abscess is formed in the lungs, which is termed a vomica, and produces all the symptoms of phthisis, it will at length break either internally, when the matter is coughed up, or point externally, and admit of being opened; and, after its contents are evacuated, it will heal up, and the patient completely recover.

The other species of consumption may be denominated hereditary, as being derived either from a parent, or occasionally from some more distant relative. As we perceive children to resemble their parents in the features of their face, and in the disposition of their minds, so there can be no doubt but they also resemble them in the internal organization of the body, on the peculiar structure of which a predisposition to future disease must necessarily depend; and that children are, in fact, liable to the diseases of their parents, we have manifold and decisive proofs. How frequently do we see a person, at a certain time of life, so much resemble what a father was at the same period, that he seems to fill the identical place in society that the former occupied. In like manner, at certain periods of life, do children become liable to the diseases of their parents, and consumption, gout, or dropsy makes its appearance, the germs of which must have lain in the system from the earliest period of existence, although they did not disclose themselves till their due season. Not only do we see that children are peculiarly prone to the diseases of that parent to whom they bear the greatest personal similarity, but as we occasionally perceive the resemblance of some more remote ancestor break forth, as it were, in a family, so we shall find the constitution and diseases of that child differ from those of its immediate parents, and partake rather of the nature of the progenitor whom it most resembles.

These circumstances are thus particularly noted, because it is only in cases where the predisposition to this disease is suspected at a very early period of life, that the means of prevention can be employed with any reasonable prospect of success. For the same reason, also, I am desirous of attracting the attention to a point of similarity between parents and children which has not hitherto been sufficiently attended to. The form and structure of the nails of both extremities afford an excellent criterion to enable us to judge which of the parents the offspring most resembles in constitution. I have known the peculiar structure of a toe-nail designate certain individuals of a family for several successive generations. Although these parts of the human body do not make their appearance earlier than about the sixth month of the fœtal age, they indicate very decidedly the predominant influence of the parent whom the child most resembles in constitution. It is also a curious fact that the horns of animals, which often do not appear till several months after birth, afford the best criterion for distinguishing the peculiar breed or race, to those who are conversant with such subjects.

But certain peculiarities in the structure of the nails afford also a strong indication of the propensity to phthisis. In forming an opinion concerning the probable future occurrence of this disease, the nails ought always to be carefully examined, and compared with those of the parents. If these parts of the body are large, of an oblong shape, of a smooth texture, and a pink colour, curling over the tips of the fingers, the last joint of which is commonly somewhat enlarged, there is much reason to suspect a phthisical tendency. If, moreover, we find a slender conformation of the body, fine skin and hair, a shrill voice easily rendered hoarse, hollowness of the temples, sound teeth, and an expanded pupil of the eye, there is little doubt but a person so constituted will, at some future period of life, become the victim of pulmonary consumption.

The aggregate of these appearances constitute what is termed delicacy of constitution. This habit of body is frequently accompanied by superior powers of mind. Individuals, indeed, who seem almost to approach the perfection of our species, are peculiarly marked as the victims of pulmonary consumptions. This fact not only furnishes a strong motive for endeavouring to prevent the first attack of affections of the lungs, but affords also some grounds to encourage the expectation of success. Soundness of teeth, a marked concomitant of the phthisical habit, is commonly considered as one of the surest signs of a sound constitution. A variety of examples might also be adduced of persons who, after having subdued, by regimen and medicine, phthisical symptoms with which they were threatened in their youth, have protracted existence to a very advanced period of life. As the propensity to this disease must necessarily be the result of a certain combination of habits, continued, perhaps, from one generation to another, combined with the peculiar circumstances in which the individual is placed, it is reasonable to suppose that, by altering the former, and counteracting the latter, the general constitution might be changed.

Pulmonary consumption is a disease almost peculiar to a certain zone of northern latitude, in which the British Isles are included. A little farther to the north, or to the south, the ravages of these complaints are comparatively trifling. The only natural cause to which this can with propriety be attributed, is the fluctuation of our atmospheric temperature between the confines of heat and cold. The increased frequency of pulmonic complaints, which has accompanied the more general diffusion of wealth, and consequent habits of luxurious living in this country, affords, I think, sufficient proof that tender and indulgent treatment is not the best means of obviating them. What are the classes of mankind most susceptible of, and most injured by the impressions of heat and cold? Precisely those who are least exposed to their influence. Sedentary artificers, who necessarily pass their days in close and heated chambers, are swept off in unaccountable numbers by pulmonary consumption; while sailors, ploughmen, butchers, and all persons whose occupations lead them to be much in the open air, enjoy a comparative immunity from the attack of this disease. Among the native inhabitants of America, Doctor Rush informs us, that pul-

monary consumption is unknown; but in proportion as they adopt the arts and manners of civilized life, do they become liable to the fatal influence of this complaint.

When a wealthy parent sees a delicate child shiver at the freshness of the breeze, a natural tenderness leads him to avert this unpleasant feeling by the means he can most readily command, close apartments and warm clothing. But he thus augments that very delicacy of constitution he should endeavour to counteract. The variations of atmospheric temperature are most sensibly felt by those who are cased in the thickest clothing; as plants reared in the hot-house are least able to bear the blasts of winter. Contrast the leaden-coloured visage, and the chilblain toes and fingers of the puny schoolboy, shivering and crawling along the street in a winter's day, with the appearance of the country lad of equal years employed all day in following the plough; the surface of his body, in place of being chilled by the cold, is roused to a state of increased vascular action, his countenance glows with the genuine hue of health, and his whole frame bespeaks elasticity and vigour.

Surely from this example we might be taught the most effectual method of averting delicacy of constitution, being careful to modify the means according to the object we have to operate upon. Let the child whose wealth can command, and whose future existence is of sufficient importance to justify such attention, reside in a part of the country where the soil is chalk or limestone, and the air pure. Let him be abroad all day, and during every kind of weather, provided he is employed in active exercise; let him be guarded against suddenly approaching, or sitting much over the fire, even in winter. Let the habit of retiring early to bed, and leaving it early in the morning, be strictly enforced. Let him wear no more clothes than are requisite to guard against cold, and plunge into the sea, or a river, for a moment, daily, during the three warmest months of summer. The phthisical habit is, in general, attended by a precocity of intellect, which it is of more importance to check than to encourage. In such instances the improvement of the mind should be considered as a secondary object, and may well be postponed till a certain share of robustness of constitution has been ensured. This kind of corporeal education is obviously incompatible with the usual discipline of schools, whether private or public, and can only be advisable where the importance of the object justifies the various sacrifices that must be made in order to attain it.

I very recently had occasion to see the success of this plan completely exemplified. Every possible attention was paid to the health of a delicate child by its anxious parents. He lived in spacious apartments in an open and airy part of London; was carried abroad several times every day when it did not rain; and the diet was regulated with every attention to propriety. Notwithstanding all this care the flesh of this child was flabby, he was averse to exercise, the belly became prominent, and the glands on each side of the neck were very considerably enlarged. In this state the child was removed the beginning of last summer to a dry and healthy situation in the neighbourhood of the sea. There it ran about and bathed along with other children of a similar age.

No particular attention was paid to dress or diet. In the course of a few months the tumid abdomen subsided, the swellings of the neck disappeared, the flesh became firm, and this child, whose life had been despaired of, and was sent from home as on a forlorn hope, returned vigorous, active, and healthy.

But precautions against this insidious disease are rarely had recourse to at so early a period of life. The buoyant spirits and active propensities of its destined victims rarely excite suspicion either in themselves or their friends of the approaching mischief. As the age of puberty approaches, other indications of the propensity to phthisis are developed. The narrow and elongated form of the chest becomes more apparent, and is chiefly indicated by the prominence of the shoulders, which stand out from it on each side somewhat like wings. A broad deep chest, the transverse section of which approaches the circle, affords the best criterion of a healthy and vigorous conformation of the body, not only in man but in all kinds of quadrupeds which are subservient to his wants. For the support of life it is necessary that nearly one half of the blood should circulate through the lungs in the same time that the remainder passes through the rest of the body. But if the lungs are prevented from expanding to their proper magnitude in consequence of being confined within the limits of a narrow thorax, their proper blood-vessels must be proportionally diminished in number as well as in dimensions, and on any sudden push of blood, their coats, already over-distended, must be prone to rupture. At this period of life, too, there is evidently an effort of the constitution endeavouring to expand every part to a state of full perfection. This is evinced by frequent discharges of blood from the nose. The vessels of that part readily heal, but an accident of the same kind taking place in the lungs, not unfrequently lays the foundation of consumption.

This temporary fulness of blood should be counteracted, by strictly adhering to a diet of the farinacea and ripe fruits. Animal food and fermented liquors ought to be rigidly prohibited. Even milk often proves too nutritious. Exercise should be regular but gentle. Sudden and violent exertions are extremely hazardous. Riding on horseback is preferable to any other kind of exercise. Such efforts of the voice as are required in singing or playing on any wind-instrument of music, frequently produce discharges of blood from the lungs; but the practice of reading or reciting for some time together in a moderate tone of voice, tends to strengthen these organs, and to diminish the danger of pulmonary hemorrhage from any sudden exertion.

During the circulation of the blood through the lungs, a principle necessary to the support of life is absorbed from the air; and various matters, the longer continuance of which in the body would be noxious, are also discharged in the form of vapour or gas. That there is, besides, no inconsiderable quantity of aqueous fluid secreted and discharged from the lungs, every person must be convinced, who has attended to the deposition of watery particles that takes place from the breath in a frosty day. Of the whole quantity of perspirable matter discharged from the surface of the body in any given portion of time, that exhaled from the surface of the

lungs may be estimated as amounting to one-third. The skin and the lungs being both secreting surfaces, must also be considered as organs mutually compensating or balancing each other. If the skin be suddenly chilled, a larger share of perspirable matter will endeavour to escape by the lungs, as being an internal, and therefore a warmer surface. It is not surprising that this effort should in a delicate organ be productive of derangement and disease, and accordingly we daily hear people dating their first attack of pulmonary complaints from sitting in a cold place after having been over-heated, from being thoroughly soaked with rain, or from cold-bathing in an improper state of the system.

The purpose of these observations is to enforce the propriety of maintaining cutaneous perspiration, and endeavouring to render the surface of the body less susceptible of atmospheric variations. In persons of a phthisical habit the skin is in general either dry and scabrous, or clammy, both of which conditions betoken deficient perspiration. The most effectual means of removing this morbid state of the surface of the body is the sedulous use of cutaneous friction. Why a practice, on which the ancient physicians placed so much dependence not only for the cure of many diseases, but in a pre-eminent manner for the preservation of health, should have in modern times fallen so completely into neglect, it is not perhaps easy to account; although at present nothing seems to be considered as medicine except what is taken into the stomach; as if the due regulation of air and exercise did not furnish means of recovery, at least as efficacious as drugs.

Cutaneous friction is most advantageously performed by means of a flesh-brush. To be of any essential use, this instrument ought to be of a much harder texture than those commonly offered for sale. The most favourable season for this practice is not immediately on getting out of bed. There exists a sensibility of the skin at that time which renders the application of the brush painful and unpleasant. After the customary diurnal evacuation of the bowels has taken place, the person should strip, and applying this instrument to various parts of the body in succession, commencing with the chest, continue the friction until an universal redness and glow takes place over the whole surface of the body. The temporary exposure of the naked body to the air of the chamber during this operation, accustoms the skin to a certain variety of temperature, while any danger of taking cold is completely obviated by the exercise, as a person ought always, if his strength permit, to rub himself. Though somewhat painful and irksome at first, this operation, like all the rest of our active habits, gradually becomes pleasant, and at length necessary, so that a person accustomed to it feels himself uncomfortable if he has omitted for a day his usual exercise.

From regularly persevering for some length of time in this practice I have observed a very obvious alteration produced in the texture of the skin. It appears to acquire thickness, and to become mellow and pliable, a condition very different from that of persons disposed to phthisis, whose skin is commonly thin and harsh. The muscles also seem to derive firmness from this practice. The brush will also be found daily to remove no small quantity of fur-

furaceous matter, which, whether it be inspissated perspiration adhering to the surface, or particles of decaying cuticle, is certainly better away. This practice also removes every kind of roughness and asperity from the surface of the skin, which becomes beautifully smooth and polished, so that even as a cosmetic, having no tendency to impair health, cutaneous friction may be advantageously employed. After exposure to wet, to strip and rub the surface of the body till it glows, is unquestionably the best means to prevent taking cold.

I do not presume so strenuously to recommend friction of the skin as a means of supporting the healthy action of the external surface of the body, and of promoting cutaneous perspiration, without having witnessed remarkable changes for the better produced in the constitution by adopting and persevering is this practice. Indeed I am disposed to attribute much of the benefit derived from exercise on horseback, as well as the good effects of a sea-voyage towards a mild climate, to the increase of perspiration produced by these modes of gestation.

Every person suspicious of predisposition to pulmonary consumption ought at all times, but especially in cold weather, to wear a quantity of woollen clothing sufficient to obviate any approach to the perception of chillness; independently however of the actual presence of obstinate hoarseness or cough, I am disposed to think that the requisite quantity of flannel is more advantageously worn over the usual shirt, than in immediate contact with the skin.

The possibility of communicating this disease by contagion is a point that has been much agitated. As a measure of precaution, the delicate ought to decide this question for themselves in the affirmative. Exhalation from the lungs is the mode by which infectious diseases are most generally propagated; and from analogy we might infer that air impregnated with the effluvia of these organs in a state of ulceration, would have a tendency to excite diseased action of a similar kind if received into the lungs of a person previously disposed to this complaint. I have seen more than one instance of a husband who appeared to have no previous disposition to consumption, being affected with a distressing cough, which continued to harass him for months while his wife was lingering under that disease. On one melancholy occasion I witnessed the successive deaths of three young ladies, two of whom, in my opinion, decidedly caught the disease in consequence of their sedulous attention, during the progress of the indisposition, to her who was first affected, who evidently was of a phthisical habit, which was not apparent in either of the others.

If the presence of the symptoms which have been already described as characterising this disease renders its existence no longer equivocal, the person so affected ought without delay to migrate towards a warmer climate. Should circumstances render this expedient impracticable, the next best plan a phthisical person can adopt is to remove into a low and rather damp situation. The fatal event of pulmonary consumption is uniformly accelerated by residing in an elevated region. There are even instances on record of phthisis making its appearance in families,

previously unaffected by it, on changing their place of residence from a level to a hilly country. While on the contrary the inhabitants of extensive districts in Lincolnshire and in Essex enjoy a complete immunity from this disease. In Holland, pulmonary consumption is a disease of comparatively rare occurrence. The same situations that predispose to ague are unfavourable to the attack of phthisis, as if these two states of the constitution were incompatible with each other. The physicians of ancient Rome were accustomed to send their consumptive patients to the low and marshy land of Egypt. Cicero, the celebrated orator, who, in his youth, was threatened with consumption, as the hollow temples and sharp features of his remaining busts abundantly testify, travelled into Egypt for the recovery of his health. In this country the choice of situation is not sufficiently attended to; although every practitioner of medicine must have remarked that even the soft breezes of Brompton and Chelsea have benefited invalids who were injured by the keener air of Highgate and Hampstead.*

In the incipient stages of phthisis pulmonalis the dry vomit taken in a morning, fasting, I have known occasionally to be of use. Keeping up a copious discharge from the surface of the chest by the savin ointment subsequent to the application of a blistering-plaster, sometimes appears to arrest the progress of the disease.

When symptoms of incipient phthisis have been accompanied by tumours commencing at the clavicle and extending upwards towards the ear, I have seen much benefit from the administration of calomel combined with steel.

When recovery is despaired of, a diet consisting of buttermilk and the lighter farinacea, prolongs existence, and mitigates the distress of the cough more effectually than the use of opium. From a medicine, which of late years has been much extolled, as diminishing the frequency of the pulse, *(digitalis)* I am sorry to say, I have seen no permanent benefit produced in this disease; and notwithstanding the boast of empiricism, a remedy that will heal ulceration or resolve tubercles, I believe yet remains to be discovered.

CHAP. XIV.

SMALL POX, *(Variola.)*

This disease, which originally came from Arabia, is, since the discovery of vaccination, not so general as heretofore; nor does it appear to be of so malignant a type. It is, nevertheless, a most contagious malady; and for many years proved the scourge of civilized as well as uncivilized nations. It generally makes its ap-

* In the islands of Guernsey and Jersey, where the climate is so loaded with moisture, that common salt deliquesces if exposed to the air, I am informed that coughs are very rare, and pulmonary consumptions almost unknown. Of course these islands must be an excellent situation for persons of a phthisical temperament.

pearance about the spring. It is very frequent in summer, less so in autumn, and still less in winter. Children are most liable to have it; and those whose food is unwholesome, who want proper exercise, and abound with gross humours, run the greatest hazard of catching it.

The disease is distinguished into the distinct and confluent kind; the latter of which is always attended with danger. There are likewise other distinctions of the small-pox; as the chrystalline, the bloody, &c.

Causes.—The small-pox is commonly caught by infection. Since the disease was first brought into Europe, the infection has never been wholly extinguished, nor have any proper methods, as far as I know, been taken for that purpose; so that now it has become in a manner constitutional. Children who have overheated themselves by running, wrestling, &c. or adults after a debauch, are most apt to be seized with the small-pox.

Symptoms.—This disease is so generally known, that a minute description of it is unnecessary. Children commonly look a little dull, seem listless and drowsy for a few days before the more violent symptoms of the small-pox appear. They are likewise more inclined to drink than usual, have little appetite for solid food, complain of weariness, and, upon taking exercise, are apt to perspire. These symptoms are succeeded by slight fits of cold and heat in turns, which, as the time of the eruption approaches, become more violent, and are accompanied with pains of the head and loins, vomiting, &c. The pulse is quick, with a great heat of the skin, and restlessness. When the patient drops asleep, he wakes in a kind of horror, with a sudden start, which is a very common symptom of the approaching eruption; as are also convulsion-fits in very young children.

About the third or fourth day from the time of sickening, the small-pox generally begin to appear; sometimes, indeed, they appear sooner, but that is no favourable symptom. At first they very nearly resemble flea-bites, and are soonest discovered on the face, arms, and breast.

The most favourable symptoms are a slow eruption, and an abatement of the fever as soon as the pustules appear. In a mild distinct kind of small-pox the pustules seldom appear before the fourth day from the time of sickening, and they generally keep coming out gradually for several days after. Pustules which are distinct, with a florid red basis, and which fill with thick purulent matter, first of a whitish, and afterwards of a yellowish colour, are the best.

A livid brown colour of the pustules is an unfavourable symptom; as also when they are small and flat, with black specks in the middle. Pustules which contain a thin watery ichor are very bad. A great number of pox on the face is always attended with danger. It is likewise a bad sign when they run into one another.

It is a most unfavourable symptom when petechiæ, or purple, brown, or black spots are interspersed among the pustules. These are signs of a putrid dissolution of the blood, and show the danger

to be very great. Bloody stools or urine, with a swelled belly, are bad symptoms; as is also a continual strangury. Pale urine and a violent throbbing of the arteries of the neck are signs of an approaching delirium or of convulsion-fits. When the face does not swell, or falls before the pox come to maturity, it is very unfavourable. If the face begins to fall about the eleventh or twelfth day, and at the same time the hands and feet begin to swell, the patient generally does well; but when these do not succeed each other, there is reason to apprehend danger. When the tongue is covered with a brown crust, it is an unfavourable symptom. Cold shivering fits coming on at the height of the disease, are likewise unfavourable. Grinding of the teeth, when it proceeds from an affection of the nervous system, is a bad sign; but sometimes it is occasioned by worms, or a disordered stomach.

Diet.—When the first symptoms of the small-pox appear, people are ready to be alarmed, and often fly to the use of medicines, to the great danger of the patient's life. I have known children, to appease the anxiety of their parents, bled, blistered, and purged, during the fever which preceded the eruption of the small-pox, to such a degree, that Nature was not only disturbed in her operation, but rendered unable to support the pustules after they were out; so that the patient, exhausted by mere evacuations, sunk under the disease.

When convulsions appear, they give a dreadful alarm. Immediately some nostrum is applied, as if this were a primary disease; whereas it is only a symptom, and far from being an unfavourable one, of the approaching eruption. As the fits generally go off before the actual appearance of the small-pox, it is attributed to the medicine, which by this means acquires a reputation without any merit.*

All that is, generally speaking, necessary during the eruptive fever, is to keep the patient cool and easy, allowing him to drink freely of some weak diluting liquors; as balm-tea, barley-water, clear whey, gruels, &c. He should not be confined to bed, but should sit up as much as he is able, and should have his feet and legs frequently bathed in lukewarm water. His food ought to be very light, and he should be as little disturbed with company as possible.

Much mischief is done at this period by confining the patient too soon to his bed, and plying him with warm cordials, or sudorific medicines. Every thing that heats and inflames the blood increases the fever, and pushes out the pustules prematurely. This has numberless ill effects. It not only increases the number of pustules, but likewise tends to make them run into one another; and when they have been pushed out with too great violence, they generally fall in before they come to maturity.

* Convulsion-fits are, no doubt, very alarming, but their effects are often salutary. They seem to be one of the means made use of by Nature for breaking the force of a fever. I have always observed a fever abated, and sometimes quite removed, after one or more convulsion-fits. This readily accounts for convulsions being a favourable symptom in the fever which precedes the eruption of the small-pox, as every thing that mitigates this fever lessens the eruption.

The good women, as soon as they see the small-pox begin to appear, commonly ply their tender charge with cordials, saffron, and marigold-teas, wine, punch, and even brandy itself. All these are given with a view, as they term it, to throw out the eruption from the heart. This, like most other popular mistakes, is the abuse of a very just observation, *that when there is a moisture on the skin, the pox rise better, and the patient is easier, than when it continues dry and parched.* But that is no reason for forcing the patient into a sweat. Sweating never relieves unless where it comes spontaneously, or is the effect of drinking weak diluting liquors. The patient ought to have no more covering in bed than is necessary to prevent his catching cold, and should be frequently taken up, to keep him cool, and prevent too great a flux of blood towards the head.

Children are often so peevish, that they will not lie in bed without a nurse constantly by them. Indulging them in this, we have reason to believe, has many bad effects, both upon the nurse and the child. Even the natural heat of the nurse cannot fail to augment the fever of the child; but if she too proves feverish, which is often the case, the danger must be increased.

Laying several children who have the small-pox in the same bed, has many ill consequences. They ought, if possible, never to be in the same chamber, as the perspiration, the heat, smell, &c. all tend to augment the fever, and to heighten the disease. It is common among the poor to see two or three children lying in the same bed, with such a load of pustules that even their skins stick together. One can hardly view a scene of this kind without being sickened by the sight; but how must the effluvia affect the poor patients, many of whom perish by this usage. This observation is likewise applicable to hospitals, workhouses, &c., where numbers of children happen to have the small-pox at the same time. I have seen above forty children cooped up in one apartment, all the while they had this disease, without any of them being admitted to breathe the fresh air. No one can be at a loss to see the impropriety of such conduct. It ought to be a rule not only in hospitals for the small-pox, but likewise for other diseases, that no patient should be within sight or hearing of another. This is a matter to which too little regard is paid. In most hospitals and infirmaries, the sick, the dying, and the dead, are often to be seen in the same apartment.

A very dirty custom prevails among the lower class of people, of allowing children in the small-pox to keep on the same linen, during the whole period of that loathsome disease. This is done lest they should catch cold; but it has many ill consequences. The linen becomes hard by the moisture, which it absorbs, and frets the tender skin. It likewise occasions a bad smell, which is very pernicious both to the patient and those about him; besides, the filth and sordes which adhere to the linen being resorbed, or taken up again into the body, greatly augment the disease.

A patient should not be suffered to be dirty in an internal disease, far less in the small-pox. Cutaneous disorders are often occasioned by nastiness alone, and are always increased by it. Were the patient's linen to be changed every day, it would greatly refresh

him. Care, indeed, is to be taken that the linen be thoroughly dry. It ought likewise to be put on when the patient is most cool.

So strong is the vulgar prejudice in this country, notwithstanding all that has been said against the hot regimen in the small-pox, that numbers still fall a sacrifice to that error. I have seen poor women travelling in the depth of winter, and carrying their children along with them in the small-pox, and have frequently observed others begging by the way-side, with infants in their arms covered with the pustules; yet I could never learn that one of these children died by this sort of treatment. This is certainly a sufficient proof of the safety, at least, of exposing patients in the small-pox to the open air. There can be no reason, however, for exposing them to public view. It is now very common, in the environs of great towns, to meet patients in the small-pox on the public walks. This practice, however well it may suit the purposes of boasting inoculators, is dangerous to the citizens, and contrary to the laws of humanity and sound policy.

The food in this disease ought to be very light, and of a cooling nature, as panado, or bread boiled with equal quantities of milk and water, good apples roasted, or boiled with milk, and sweetened with a little sugar, or such like.

The drink may be equal parts of milk and water, clear sweet-whey, barley-water, or thin gruel, &c. After the pox are full, buttermilk, being of an opening and cleansing nature, is a very proper drink.

Medicine.—This disease is generally divided into four different periods, viz. the fever which precedes the eruption, the eruption itself, the suppuration or maturation of the pustules, and the secondary fever.

It has already been observed, that little more is necessary, during the primary fever, than to keep the patient cool and quiet, allowing him to drink diluting liquors, and bathing his feet frequently in warm water. Though this be generally the safest course that can be taken with infants, yet adults of a strong constitution and plethoric habit sometimes require bleeding. When a full pulse, a dry skin, and other symptoms of inflammation, render this operation necessary, it ought to be performed; but unless these symptoms are urgent, it is safer to let it alone; if the body is bound, emollient clysters may be thrown in.

If there is a great nausea, or inclination to vomit, weak camomile-tea, or lukewarm water, may be drunk, in order to cleanse the stomach. At the beginning of a fever, Nature generally attempts a discharge, either upwards or downwards, which, if promoted by gentle means, would tend greatly to abate the violence of the disease.

Though every method is to be taken during the primary fever, by a cool regimen, &c. to prevent too great an eruption, yet, after the pustules have made their appearance, our business is to promote the suppuration by diluting drink, light food, and, if Nature seems to flag, by generous cordials. When a low, creeping pulse, faintishness, and great loss of strength, render cordials necessary, we would recommend good wine, which may be made into negus

with an equal quantity of water, and sharpened with the juice of an orange, the jelly of currants, or the like. Wine-whey, sharpened as above, is likewise a proper drink in this case; great care, however, must be taken not to overheat the patient by any of these things. This, instead of promoting, would retard the eruption.

The rising of the small-pox is often prevented by the violence of the fever; in this case the cool regimen is strictly to be observed. The patient's chamber must not only be kept cool, but he ought likewise frequently to be taken out of bed, and to be lightly covered with clothes while in it.

Excessive restlessness often prevents the rising and filling of the small-pox. When this happens, gentle opiates are necessary. These, however, ought always to be administered with a sparing hand. To an infant, a tea-spoonful of the syrup of poppies may be given every five or six hours till it has the desired effect. An adult will require a table-spoonful in order to answer the same purpose.

If the patient be troubled with a strangury, or suppression of urine, which often happens in the small-pox, he should be frequently taken out of bed, and, if he be able, should walk across the room with his feet bare. When he cannot do this, he may be frequently set on his knees in bed, and should endeavour to pass his urine as often as he can. When these do not succeed, a teaspoonful of the sweet spirits of nitre may be occasionally mixed with his drink. Nothing more certainly relieves the patient, or is more beneficial in the small-pox, than a plentiful discharge of urine.

If the mouth be foul, and the tongue dry and chapped, it ought frequently to be washed, and the throat gargled with water and honey, sharpened with a little vinegar or currant-jelly.

During the rising of the small-pox, it frequently happens that the patient is eight or ten days without a stool. This not only tends to heat and inflame the blood, but the fæces, by lodging so long in the body, become acrid, and even putrid, from whence bad consequences must ensue. It will, therefore, be proper, when the body is bound, to throw in an emollient clyster every second or third day, through the whole course of the disease. This will greatly cool and relieve the patient.

When petechiæ, purple, black, or livid spots appear among the small-pox, the Peruvian bark must immediately be administered, in as large doses as the patient's stomach can bear. For a child, two drachms of bark in powder may be mixed in three ounces of common water, one ounce of simple cinnamon water, and two ounces of the syrup of orange or lemon. This may be sharpened with the spirit of vitriol, and a table-spoonful of it given every hour. If it be given to an adult in the same form, he may take, at least, three or four spoonsful every hour. This medicine ought not to be trifled with, but must be administered as frequently as the stomach can bear it; in which case it will often produce very happy effects. I have frequently seen the petechiæ disappear, and the small-pox, which had a very threatening aspect, rise and fill with laudable matter, by the use of the bark and acids.

The patient's drink ought likewise, in this case, to be generous, as wine or strong negus, acidulated with spirits of vitriol, vinegar, the juice of lemon, jelly of currants, or such like. His food must

consist of apples, roasted or boiled, preserved cherries, plums, and other fruits of an acid nature.

The bark and acids are not only necessary when the petechiæ, or putrid symptoms, appear, but likewise in the lymphatic or crystalline small-pox, where the matter is thin, and not duly prepared. The Peruvian bark seems to possess a singular power of assisting Nature in preparing laudable pus, or what is called good matter; consequently, it must be beneficial both in this and other diseases, where the crisis depends on a suppuration. I have often observed where the small-pox were flat, and the matter contained in them quite clear and transparent, and where at first they had the appearance of running into one another, that the Peruvian bark, acidulated as above, changed the colour and consistence of the matter, and produced the most happy effects.

When the eruption subsides suddenly, or, as the good women term it, when the small-pox *strike in*, before they have arrived at maturity, the danger is very great. In this case blistering-plasters must be immediately applied to the wrists and ancles, and the patient's spirits supported with cordials.

Sometimes bleeding has a surprising effect in raising the pustules after they have subsided; but it requires skill to know when this is proper, or to what length the patient can bear it. Sharp cataplasms, however, may be applied to the feet and hands, as they tend to promote the swelling of these parts, and by that means to draw the humours towards the extremities.

The most dangerous period of this disease is what we call the secondary fever. This generally comes on when the small-pox begin to blacken, or turn on the face; and most of those who die of the small-pox are carried off by this fever.

Nature generally attempts, at the turn of the small-pox, to relieve the patient by loose stools. Her endeavours this way are by no means to be counteracted, but promoted, and the patient, at the same time, supported by food and drink of a nourishing and cordial nature.

If, at the approach of the secondary fever, the pulse be very quick, hard, and strong, the heat intense, and the breathing laborious, with other symptoms of an inflammation of the breast, the patient must immediately be bled. The quantity of blood to be let must be regulated by the patient's strength, age, and the urgency of the symptoms.

But in the secondary fever, if the patient be faintish, the pustules become suddenly pale, and if there be great coldness of the extremities, blistering-plasters must be applied, and the patient must be supported with generous cordials. Wine, and even spirits, have sometimes been given in such cases with amazing success.

As the secondary fever is, in great measure, if not wholly, owing to the absorption of the matter, it would seem highly consonant to reason, that the pustules as soon as they come to maturity, should be opened. This is every day practised in other phlegmons which tend to suppuration; and there seems to be no cause why it should be less proper here. On the contrary, we have reason to believe that by this means the secondary fever might always be lessened, and often wholly prevented.

The pustules should be opened when they begin to turn of a yellow colour. Very little art is necessary for this operation. They may either be opened with a lancet or a needle, and the matter absorbed by a little dry lint. As the pustules are generally first ripe on the face, it will be proper to begin with opening these, and the others of course as they become ripe. The pustules generally fill again, a second, or even a third time, for which cause the operation must be repeated, or rather continued, as long as there is any considerable appearance of matter in the pustules.

We have reason to believe that this operation, rational as it is, has been neglected from a piece of mistaken tenderness in parents. They believe that it must give great pain to the poor child, and, therefore, would rather see it die than have it thus tortured. This notion, however, is entirely without foundation. I have frequently opened the pustules when the patient did not see me, without his being in the least sensible of it; but suppose it were attended with a little pain, that is nothing in comparison to the advantages which may arise from it.

Opening the pustules not only prevents the resorption of the matter into the blood, but likewise takes off the tension of the skin, and by that means greatly relieves the patient. It likewise tends to prevent the pitting, which is a matter of no small importance. Acrid matter, by lodging long in the pustules, cannot fail to corrode the tender skin, by which many a handsome face becomes so deformed as hardly to bear a resemblance to the human figure.*

It is generally necessary, after the small-pox are gone off, to purge the patient. If, however, the body has been open through the whole course of the disease, or if buttermilk and other things of an opening nature have been drunk freely, after the height of the small-pox, purging becomes less necessary; but it ought never wholly to be neglected.

For very young children, an infusion of senna and prunes, with a little rhubarb, may be sweetened with coarse sugar, and given in small quantities till it operates. Those who are farther advanced must take medicines of a sharper nature. For example, a child of five or six years of age may take eight or ten grains of fine rhubarb, in powder, over-night, and the same quantity of jalap in powder next morning. This may be wrought off with fresh broth or water-gruel, and may be repeated three or four times, five or six days intervening between each dose. For children further advanced, and adults, the dose must be increased in proportion to the age and constitution.†

When imposthumes happen after the small-pox, which is not seldom the case, they must be brought to suppuration as soon as possible, by means of ripening poultices; and when they have

* Though this great operation can never do harm, yet it is only necessary when the patient has a great load of small-pox, or when the matter which they contain is of so thin and acrid a nature that there is reason to apprehend bad consequences from its being too quickly resorbed, or taken up again into the mass of circulating humours.

† I have of late been accustomed, after the small-pox, to give one, two, three, four, or five grains of calomel, according to the age of the patient, over-night, and to work it off next morning with a suitable dose of jalap. Or the jalap and calomel may be mixed together, and given in the morning.

been opened, or have broke of their own accord, the patient must be purged. The Peruvian bark and a milk-diet will likewise be useful in this case.

When a cough, a difficulty of breathing, or other symptoms of a consumption, succeed to the small-pox, the patient must be sent to a place where the air is good, and put upon a course of asses' milk, with such exercise as he can bear. For further directions in this case, see the article *Consumptions*.

CHAP. XV.

MEASLES. (*Morbilli* or *Rubeola.*)

The measles appeared in Europe about the same time with the small-pox, and have a great affinity to that disease. They both came from the same quarter of the world, are both infectious, and seldom attack the same person more than once. The measles are most common in the spring season, and generally disappear in summer. The disease itself, when properly managed, seldom proves fatal; but its consequences are often very troublesome.

Causes.—This disease, like the small-pox, proceeds from infection, and is more or less dangerous according to the constitution of the patient, the season of the year, the climate, &c.

Symptoms.—The measles, like other fevers, are preceded by alternate fits of heat and cold, with sickness and loss of appetite. The tongue is white, but generally moist. There is a short cough, a heaviness of the head and eyes, drowsiness, and a running at the nose. Sometimes, indeed, the cough does not come before the eruption has appeared. There is an inflammation and heat in the eyes, accompanied with a defluction of sharp rheum, and great acuteness of sensation, so that they cannot bear the light without pain. The eyelids frequently swell so as to occasion blindness. The patient generally complains of his throat; and a vomiting or looseness often precedes the eruption. The stools in children are commonly greenish; they complain of an itching of the skin, and are remarkably peevish. Bleeding at the nose is common, both before and in the progress of the disease.

About the fourth day, small spots, resembling flea-bites, appear, first upon the face, then upon the breast, and afterwards on the extremities: these may be distinguished from the small-pox by their scarcely rising above the skin. The fever, cough, and difficulty of breathing, instead of being removed by the eruption, as in the small-pox, are rather increased; but the vomiting generally ceases.

About the sixth or seventh day from the time of sickening, the measles begin to turn pale on the face, and afterwards upon the body; so that by the ninth day they entirely disappear. The fe-

ver, however, and difficulty of breathing, often continue, especially if the patient has been kept upon too hot a regimen. Petechiæ, or purple spots, may likewise be occasioned by this error.

A violent looseness sometimes succeeds the measles; in which case the patient's life is in imminent danger.

Such as die of the measles generally expire about the ninth day from the invasion, and are commonly carried off by a peripneumony, or inflammation of the lungs.

The most favourable symptoms are a moderate looseness, a moist skin, and a plentiful discharge of urine.

When the eruption suddenly falls in, and the patient is seized with a delirium, he is in the greatest danger. If the measles turn too soon of a pale colour, it is an unfavourable symptom, as are also great weakness, vomiting, restlessness, and difficulty of swallowing. Purple or black spots appearing among the measles, are very unfavourable. When a continual cough, with hoarseness, succeeds the disease, there is reason to suspect an approaching consumption of the lungs.

Our business in this disease is to assist Nature, by proper cordials, in throwing out the eruption, if her efforts be too languid; but when they are too violent, they must be restrained by evacuations and cool diluting liquors, &c. We ought likewise to endeavour to appease the most urgent symptoms, as the cough, restlessness, and difficulty of breathing.

Regimen.—The cool regimen is necessary here as well as in the small-pox. The food, too, must be light, and the drink diluting. Acids, however, do not answer so well in the measles as in the small-pox, as they tend to exasperate the cough. Small-beer, likewise, though a good drink in the small-pox, is here improper. The most suitable liquors are decoctions of liquorice with marshmallow roots and sarsaparilla, infusions of linseed or of the flowers of elder, balm-tea, clarified whey, barley-water, and such like. These, if the patient be costive, may be sweetened with honey; or, if that should disagree with the stomach, a little manna may occasionally be added to them.

Medical treatment.—The measles being an inflammatory disease, without any critical discharge of matter, as in the small-pox, bleeding is commonly necessary, especially when the fever runs high, with difficulty of breathing, and great oppression of the breast. But if the disease be of a mild kind, bleeding may be omitted.*

Bathing the feet and legs frequently in lukewarm water both tends to abate the violence of the fever, and to promote the eruption.

* I do not know any disease wherein bleeding is more necessary than in the measles, especially when the fever runs high: in this case I have always found it relieve the patient. Practitioners, however, are at variance with respect to the time bloodletting may be employed with the most advantage. Dr. Morton thinks it requisite as soon as the eruption is completed. Sydenham recommends it after the eruption has disappeared: but practice, in this respect, should be regulated by the degree of the accompanying inflammation of the lungs, without attending to the particular period of the disorder or the state of the eruption: this is the generally approved practice at the present day.

The patient is often greatly relieved by vomiting. When there is a tendency this way, it ought to be promoted by drinking lukewarm water, or weak camomile-tea.

When the cough is very troublesome, with dryness of the throat, and difficulty of breathing, the patient may hold his head over the steam of warm water, and draw the vapour into his lungs.

He may likewise lick a little spermaceti and sugar-candy pounded together; or take now and then a spoonful of the oil of sweet almonds, with sugar-candy dissolved in it; which will soften the throat, and relieve the tickling cough; or the demulcent pectorals advised under the head of pleurisy, &c.*

If at the turn of the disease the fever assumes new vigour, and there appears great danger of suffocation, the patient must be bled according to his strength, and a blister applied, with a view to prevent the load from being thrown on the lungs, where, if an inflammation should fix itself, the patient's life will be in imminent danger.

In case the measles should suddenly disappear, or before the proper time, it will be necessary to pursue the same method which we have recommended when the small-pox recede. The patient must be supported with wine and cordials. Blisters must be applied to the legs and arms, and the body rubbed all over with warm flannels. Warm poultices may likewise be applied to the feet and palms of the hands: diaphoretics, &c.†

When inflammation attacks the chest, a warm bath strongly impregnated with salt, has been found a powerful subsidiary remedy, in addition to blood-letting.‡

If the symptoms manifest a tendency to a putrid or malignant form of disease, they must be treated accordingly, as directed in slow nervous (typhus) fever.

When purple or black spots appear, the patient's drink should be sharpened with spirits of vitriol; and if the putrid symptoms increase, the Peruvian bark must be administered in the same manner as directed in the small-pox.

Opiates are sometimes necessary, and should be given combined with some saline diaphoretic, at bed-time: but, they should never be given except in cases of extreme restlessness, a violent looseness, or when the cough is very troublesome. For children the syrup of poppies is sufficient. A teaspoonful or two may be occasionally given, according to the patient's age, or the violence of the symptoms.

During the whole course of the disease it will be highly proper to keep the body open; and, therefore, if costiveness exist, it

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* Take Almond Mixture, 5 ounces.
Nitrate of Potash, 15 grains.
Syrup of Poppies, ½ drachm.
Mix, and let the patient take a dessert spoonful when the cough is troublesome.

† Take Antimonial Powder, 6 grains.
Make a powder, to be given every three, four, or six hours.

or

Take Spirit of Nitric Æther, 2 drachms.
Solution of acetated Ammonia, 6 drachms.
Mint Water, 5 ounces.
Syrup of Saffron, 3 drachms.
Mix.—Two table-spoonsful to be taken frequently.

‡ See Dr. Armstrong, on Scarlet Fever.

should be obviated by cooling laxatives, such as the neutral salts and emollient clysters. Where the difficulty of breathing and oppression at the chest are not relieved by bleeding, and other antiphlogistic means, a blister may be applied in the neighbourhood of the part or between the shoulders. In removal of local inflammation, a blister often proves a valuable remedy.

After the measles are gone off, the patient ought to be purged. This may be conducted in the same manner as directed in the small-pox.

If a violent looseness succeed the measles, it may be checked by taking for some days a gentle dose of rhubarb in the morning, and an opiate over-night, or by the use of other astringents;* but if these do not remove it, bleeding will seldom fail to have that effect.

Patients recovering after the measles should be careful what they eat or drink. Their food for some time ought to be light, and in small quantities; and their drink diluting, and rather of an opening nature, as butter-milk, whey, and such like. They ought also to beware of exposing themselves too soon to the cold air, lest a suffocating catarrh, an asthma, or a consumption of the lungs, should ensue.

Should a cough, with difficulty of breathing, and other symptoms of a consumption, remain after the measles, small quantities of blood may be frequently let at proper intervals, as the patient's strength and constitution will permit. The camphor mixture combined with a fourth part of the water of acetated ammonia, forms a very useful medicine in that particular species of consumption which frequently succeeds the measles. He ought likewise to drink asses' milk, to remove to a free air, if in a large town, and to ride daily on horseback. He must keep close to a diet consisting of milk and vegetables; and lastly, if these do not succeed, let him remove to a warmer climate.

CHAP. XVI.

SCARLET FEVER. *(Scarlatina.)*

The scarlet fever is so called from the colour of the patient's skin, which appears as if it were tinged with red wine. It happens at any season of the year, but is most common towards the end of summer: at which time it often seizes whole families. Children and young persons are most subject to it.

It begins, like other fevers, with coldness and shivering, without any violent sickness. Afterwards the skin is covered with red spots, which are broader, more florid, and less uniform than the measles. They continue two or three days, and then disappear; after which the cuticle or scarf-skin falls off.

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* Take Chalk Mixture, 6 ounces.
Syrup of Poppies, 6 drachms.
Make a mixture, two table-spoonsful to be taken after every liquid stool.

There is seldom any occasion for medicine in the mild form of this disease. The patient ought, however, to keep within doors, to abstain from flesh, strong liquors, and cordials, and to drink freely of cool diluting liquors. If the fever run high, the body must be kept gently open by emollient clysters, or small doses of nitre and rhubarb. A scruple of the former and five grains of the latter may be taken thrice a-day, or oftener, if necessary.

Children and young persons are sometimes seized at the beginning of this disease with a kind of stupor and epileptic fits. In this case, the feet and legs should be bathed in warm water, a large blister applied to the neck, and a dose of the syrup of poppies given every night till the patient recovers.*

To determine gently to the surface of the body, it may, from time to time, be advisable to give the saline medicine with small doses of some antimonial.†

The scarlet fever, however, is not always of so mild a nature. It is sometimes attended with putrid or malignant symptoms, in which case it is always dangerous. In the malignant scarlet fever, the patient is not only affected with coldness and shivering, but with languor, sickness, and great oppression; to these succeed excessive heat, nausea, and vomiting, with a soreness of the throat; the pulse is extremely quick, but small and depressed; the breathing frequent and laborious; the skin hot but not quite dry; the tongue moist, and covered with a whitish mucus: the tonsils inflamed and ulcerated. When the eruption appears, it brings no relief; on the contrary, the symptoms generally grow worse, and fresh ones come on, as purging, delirium, &c.‡

When this disease is mistaken for simple inflammation, and treated with repeated bleedings, purging, and cooling medicines, it generally proves fatal. In those cases which manifest a disposition to malignancy and putrescency, it will be advisable to give the Peruvian bark in substance, decoction, or infusion, according as it may sit on the patient's stomach, along with the mineral acids, (particularly the muriatic) wine, and other antiseptics, from the commencement of the disease. The treatment must be, in general, similar to that of the putrid fever, or of the malignant ulcerous sore throat.

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* Sydenham.

† Take Saline Draught. Syrup of Orange Peel, 1 drm.
Camphor Mixture, of each, 6 drs. Make a draught, to be taken every four
Tartarized Antimony, $\frac{1}{2}$ gr. hours.

‡ Œdematous swellings of the ancles are not unfrequent after severe attacks of scarlet fever. Sometimes the dropsy becomes general, and destroys the patient. The remedy for this species of dropsy consists in sharp purgatives of jalap and calomel. Eight grains of the former with three of the latter may be given every second morning. Indeed it is from neglecting to keep the body sufficiently open during the disease, that this kind of dropsy most generally originates.

CHAP. XVII.

ERYSIPELAS, OR ST. ANTHONY'S FIRE.

This disease, which in some parts of Britain is called *the rose*, attacks persons at any period of life, but is most common between the age of thirty and forty. Persons of a sanguine or plethoric habit are most liable to it. It often attacks young people, and pregnant women; and such as have once been afflicted with it are very liable to have it again. Sometimes it is a primary disease, and at other times only a symptom of some other malady. Every part of the body is liable to be attacked by an erysipelas, but it most frequently seizes the legs or face, especially the latter. It is most common in autumn, or when hot weather is succeeded by cold and wet.

Causes.—The erysipelas may be occasioned by violent passions or affections of the mind; as fear, anger, &c. When the body has been heated to a great degree, and is immediately exposed to the cold air so that the perspiration is suddenly checked, (solar heat,) &c. an erysipelas will often ensue; also on exposure to cold during a mercurial course.* It may also be occasioned by drinking to excess, by continuing too long in a warm bath, or by any thing that overheats the blood. If any of the natural evacuations be obstructed, or in too small quantity, it may cause an erysipelas. The same effect will follow from the stoppage of artificial evacuations; as issues, setons, or the like.

Symptoms.—The erysipelas attacks with a shivering, thirst, loss of strength, pain in the head and back, heat, restlessness, and a quick pulse; to which may be added vomiting, and sometimes a delirium. On the second, third, or fourth day, the part swells, becomes red, and small pustules appear; at which time the fever generally abates.

When the erysipelas seizes the foot, the parts contiguous swell, the skin shines; and, if the pain be violent, it will ascend to the leg, and will not bear to be touched.

When it attacks the face, it swells, appears red, and the skin is covered with small pustules filled with clear water. One or both eyes are generally closed with a swelling; there is inflammation of the throat, and difficulty of breathing and swallowing. If the mouth and nostrils be very dry, and the patient drowsy, there is reason to suspect an inflammation of the brain.

If the erysipelas affects the breast, it swells and becomes exceedingly hard, with great pain, and is apt to suppurate. There

* The country-people in many parts of Britain call this disease a *blast*, and imagine it proceeds from foul air, or ill wind, as they term it. The truth is, they often lie down to rest them, when warm and fatigued, upon the damp ground, where they fall asleep, and lie so long as to catch cold, which occasions the erysipelas. This disease may indeed proceed from other causes, but we may venture to say, that nine times out of ten it is occasioned by cold caught after the body has been greatly heated or fatigued.

is a violent pain in the arm-pit on the side affected, where an abcess is often formed.

If in a day or two the swelling subsides, the heat and pain abate, the colour and part turns yellow, and the cuticle breaks and falls off in scales, the danger is over.

The event of this disease depends greatly upon the constitution of the patient. It is seldom dangerous; but when the constitution is bad, the legs will sometimes swell to a prodigious size, and the cure prove extremely difficult. It has often proved fatal to people in the decline of life, who were of a scorbutic habit, or whose humours were vitiated by irregular living, or unwholesome diet.

When the erysipelas is large, deep, and affects a very sensible part of the body, the danger is great. If the red colour changes into a livid or black, it will end in a mortification. Sometimes the inflammation cannot be discussed, but comes to a suppuration; in which case fistulæ, a gangrene, or mortification, often ensue.

Such as die of this disease are commonly carried off by the fever, which is attended with difficulty of breathing, and sometimes with a delirium and great drowsiness. They generally die about the seventh or eighth day.

Regimen.—In the erysipelas the patient must neither be kept too hot nor too cold, as either of these extremes will tend to make it retreat, which is always to be guarded against. When the disease is mild, it will be sufficient to keep the patient within doors, without confining him to his bed, and to promote the perspiration by diluting liquors, &c.

The diet ought to be slender, and of a moderately cooling and moistening quality, as groat-gruel, panado, chicken or barley-broth, with cooling herbs and fruits, &c., avoiding flesh, fish, strong drink, spices, pickles, and all other things that may heat and inflame the blood: the drink may be barley-water, and infusion of elder-flowers, common whey, and such like.

But if the pulse be low, and the spirits sunk, the patient must be supported with negus, and other things of a cordial nature. His food may be sago-gruel, with a little wine, and nourishing broths, taken in small quantities, and often repeated. Great care, however, must be taken not to overheat him.

Medical treatment.—The treatment of idiopathic* erysipelas varies according to the causes, symptoms, complications, and anomalies of the disease, and may be divided into internal and external. That the mode of relief must be very different in phlegmonous erysipelas from what it is in other varieties of this disorder, must be plain to every one who has the least knowledge of diseases in general.

"Common cases of *acute*, or phlegmonous, erysipelas, yield to mild purgatives, and a light vegetable diet, with which remedies practitioners usually conjoin diaphoretics and the saline mixture. Whether bleeding is right, or not, in this species of erysipelas, is

* A primary disease, arising spontaneously, and not as a symptom of any other, when it would be termed symptomatic erysipelas.

a point on which different sentiments prevail In the milder forms of the disease venesections are pretty generally dispensed with. Nor is it necessary to repeat bleeding, in any case of erysipelas, so frequently as is done in other inflammatory disorders. As regards this, however, we must be guided by the state of the pulse, and other symptoms, never forgetting the patient's age, strength, &c. Cæteris paribus, the patient will bear bleeding better in the country than in a large city, and especially in an hospital; and, as has been truly remarked, unless there be considerable tendency to delirium and coma, blood-letting can seldom be advantageously repeated. Instead of this practice, Dr. Bateman judiciously recommends local bleeding and blistering, but not upon or very near the diseased surface, whereby he avoids producing the troublesome sores, the frequency of which in former times, after taking blood from erysipelatous parts, led Mr. B. Bell to pronounce a general condemnation of the method."

In this disease much mischief is often done by medicine, especially by external applications. People, when they see an inflammation, immediately think that something ought to be applied to it. This, indeed, is necessary in large phlegmons, or boils; but in an erysipelas the safer course is to apply nothing. Almost all ointments, salves, and plasters, being of a greasy nature, tend rather to obstruct and repel, than promote any discharge from the part. At the beginning of this disease, it is neither safe to promote a suppuration, nor to repel the matter too quickly. The erysipelas, in many respects, resembles the gout, and is to be treated with the greatest caution. Fine wool, or very soft flannel, are the safest applications to the part. These not only defend it from the external air, but likewise promote the perspiration, which has a great tendency to carry off the disease. In Scotland the common people generally apply a mealy cloth to the parts affected, which is far from being improper.

It is common to bleed in the erysipelas; but this likewise requires caution. If, however, the fever be high, the pulse hard and strong, and the patient vigorous, it will be proper to bleed; but the quantity must be regulated by these circumstances, and the operation repeated as the symptoms may require. If the patient has been accustomed to strong liquors, and the disease attacks his head, bleeding is absolutely necessary.

Bathing the feet and legs frequently in lukewarm water, when the disease attacks the face or brain, has an excellent effect. It tends to make a derivation from the head, and seldom fails to relieve the patient. When bathing proves ineffectual, poultices, or sharp sinapisms, may be applied to the soles of the feet, for the same purpose.

In cases where bleeding is requisite, it is likewise necessary to keep the body open. This may be effected by emollient clysters, or small doses of nitre and rhubarb. Some, indeed, recommend very large doses of nitre in the erysipelas; but nitre seldom sits easy on the stomach when taken in large doses. It is, however, one of the best medicines when the fever and inflammation run high. Half a drachm of it, with four or five grains of rhubarb, may be taken in the patient's ordinary drink, three or four times a-day.

When the erysipelas leaves the extremities, and seizes the head, so as to occasion a delirium or stupor, it is absolutely necessary to open the body. If clysters and mild purgatives fail to have this effect, stronger ones must be given. Blistering-plasters must likewise be applied to the neck, or behind the ears, and sharp cataplasms laid to the soles of the feet.

When the inflammation cannot be discussed, and the part has a tendency to ulcerate, it will then be proper to promote suppuration, which may be done by the application of ripening poultices with saffron, warm fomentations, and such like.

When the black, livid, or blue colour of the part shows a tendency to mortification, the Peruvian bark must be administered. It may be taken along with acids, as recommended in the small-pox, or in any other form more agreeable to the patient. It must not, however, be trifled with, as the patient's life is at stake. A drachm may be given every two hours, if the symptoms be threatening, and cloths dipped in warm camphorated spirits of wine, or the tincture of myrrh and aloes, may be applied to the part, and frequently renewed. It may likewise be proper in this case to apply poultices of the bark, or to foment the part affected with a strong decoction of it.*

In what is commonly called the *scorbutic erysipelas*, which continues for a considerable time, it will only be necessary to give gentle laxatives, and such things as purify the blood and promote the perspiration. Thus, after the inflammation has been checked by opening medicines, decoction of woods may be drank, after which a course of bitters will be proper.

Such as are liable to frequent attacks of the erysipelas ought carefully to guard against all violent passions, to abstain from strong liquors, and all fat, viscid, and highly nourishing food. They should likewise take sufficient exercise, carefully avoiding the extremes of heat or cold. Their food should consist chiefly of milk and such fruits, herbs, and roots, as are of a cooling quality, and their drink ought to be small-beer, whey, butter-milk, and such like. They should never suffer themselves to be long costive. If that cannot be prevented by suitable diet, it will be proper to take frequently a gentle dose of rhubarb, cream of tartar, the lenitive electuary, or some mild purgative.

Though I have so strictly forbidden moist applications in the erysipelas, yet I cannot prevail on people to leave them off. Whenever they see inflammation, they think of some poultice, embrocation, or fomentation,† all of which do injury twenty times for once

* Experience has taught the practitioners of London, that erysipelas, under the form which it assumes in the metropolis, very generally requires the use of bark. After premising gentle evacuations of the bowels, that remedy ought to be administered in pretty large and frequent doses. Erysipelas is frequently, and in its severest forms, decidedly contagious; for this reason persons should not sleep with or idly visit those who are afflicted by this disease. Ed.

† As a cooling lotion, Dr. Thomas, nevertheless, speaks of it favourably. He recommends for this purpose, linen cloths, wetted in equal parts of the solution of acetated ammonia, or of muriated ammonia dissolved in water, with the addition of a little vinegar and camphorated spirit, with much benefit and relief to the feelings of the patient, when the application of farinaceous powders has seemed indeed to aggravate rather than assuage his sufferings. Solutions of copper, alum, or lead, are injurious. Ed.

they are of the least service, and ought never to be used unless where suppuration is inevitable.

An absorbent, which takes up the moisture and cools the skin, answers the purpose much better. What I generally use is starch-powder, spread upon a soft rag, and laid over the parts affected. This may be renewed twice or thrice a-day; and it is not to be imagined what ease and comfort it gives to the patient every time.

As the erysipelas resembles the gout in many respects, it ought not to be rashly tampered with. Should it be driven from the part affected, it may fix upon a more dangerous one. The alarm is generally greatest when it removes to or attacks the face. I have, however, known it seize upon the knee, and after laying the bones bare, prove fatal.*

For the erysipelas appearing in children, see *Infantine Erysipelas.*

CHAP. XVIII.

INFLAMMATION OF THE BRAIN. (*Phrenitis.*)

This is sometimes a primary disease, but oftener only a symptom of some other malady, as the inflammatory, eruptive, or spotted fever, &c. It is very common, however, as a primary disease in warm climates, and is most incident to persons about the prime or vigour of life. The passionate, the studious, and those whose nervous system is irritable in a high degree, are most liable to it.

Causes.—This disease is often occasioned by night-watching, especially when joined with hard study; it may likewise proceed from hard drinking, anger, grief, or anxiety. It is often occasioned by the stoppage of usual evacuations; as the bleeding piles in men, the customary discharges of women, &c. Such as imprudently expose themselves to the heat of the sun, especially by sleeping without doors in a hot season, with their heads uncovered, are often suddenly seized with an inflammation of the brain, so as

* There is a peculiar species of Erysipelas in this country termed Shingles, (*Erysipelas phlyctænodes*) and by the antients Zona or Zoster, from surrounding the trunk of the body like a belt. It consists of an aggregation of vesicles filled with a limpid or yellowish coloured fluid. The eruption makes its first appearance on some spot of the chest, and gradually extends literally both ways. It is a vulgar, but unfounded opinion, that if the extremities of the eruption meet so as completely to surround the body, the patient must die. As this complaint seems often to be critical, we should not be too eager to repel it by externals. If the eruption suddenly subside, or be driven in by external applications, a paroxysm of asthma is not unfrequently the consequence. To remove this metastasis, stimulant applications are requisite, such as the ointment of yellow resin with an eighth part of the red precipitate, or the citrine ointment, by which the inflammation of the skin is reproduced, and the discharge kept up. The general treatment of this complaint consists in keeping the patient moderately warm, and giving tepid diluent fluids, till the vesicles begin spontaneously to dry. Their desiccation may be promoted by a lotion composed of a dram of white vitriol dissolved in eight ounces of rose water. The common people are in the habit of applying to the shingles, writing ink diluted with water. After the eruption is scaled off, the patient should take a few doses of some cooling purgative. A. P. B.

to awake quite delirious. When repellents are imprudently used in an erysipelas, an inflammation of the brain is sometimes the consequence. It may likewise be occasioned by external injuries, as blows or bruises upon the head, &c.

Symptoms.—The symptoms which usually precede a true inflammation of the brain are, pain of the head, redness of the eyes, a violent flushing of the face, disturbed sleep, or a total want of it, great dryness of the skin, costiveness, a retention of urine, a small dropping of blood from the nose, singing of the ears, and extreme sensibility of the nervous system.

When the inflammation is formed, the symptoms in general are similar to those of the inflammatory fever. The pulse, indeed, is often weak, irregular, and trembling; but sometimes it is hard and contracted. When the brain itself is inflamed, the pulse is always soft and low; but when the inflammation only affects the integuments of the brain, viz. the dura and pia mater, it is hard. A remarkable quickness of hearing is a common symptom of this disease; but that seldom continues long. Another usual symptom, is a great throbbing or pulsation in the arteries of the neck and temples. Though the tongue is often black and dry, yet the patient seldom complains of thirst, and even refuses drink. The mind chiefly runs upon such objects as have before made a deep impression on it; and sometimes, from a sullen silence, the patient becomes all of a sudden quite outrageous.

A constant trembling and starting of the tendons is an unfavourable symptom, as are also a suppression of urine, a total want of sleep, a constant spitting, a grinding of the teeth, which last may be considered as a kind of convulsion. When a phrenitis succeeds an inflammation of the lungs, of the intestines, or of the throat, &c. it is owing to a translation of the disease from these parts to the brain, and generally proves fatal. This shows the necessity of proper evacuations, and the danger of repellents in all inflammatory diseases.

The favourable symptoms are, a free perspiration, a copious discharge of blood from the nose, the bleeding piles, a plentiful discharge of urine, which lets fall a copious sediment. Sometimes the disease is carried off by a looseness, and in women by an excessive flow of the menses.

As this disease often proves fatal in a few days, it requires the most speedy applications. When it is prolonged or improperly treated, it sometimes ends in madness, or a kind of stupidity which continues for life.

In the cure, two things are chiefly to be attended to, viz. to lessen the quantity of blood in the brain, and to retard the circulation towards the head.

Regimen.—The patient ought to be kept very quiet. Company, noise, and every thing that affects the senses, or disturbs the imagination, increases the disease. Even too much light is hurtful; for which reason the patient's chamber ought to be a little darkened, and he should neither be kept too hot nor cold. It is not, however, necessary to exclude the company of an agreeable friend, as

this has a tendency to soothe and quiet the mind. Neither ought the patient to be kept too much in the dark, lest it should occasion a gloomy melancholy, which is too often the consequence of this disease.

The patient must, as far as possible, be soothed and humoured in every thing. Contradiction will ruffle his mind, and increase his malady. Even when he calls for things which are not to be obtained, or which might prove hurtful, he is not to be positively denied them, but rather put off with the promise of having them as soon as they can be procured, or by some other excuse. A little of any thing that the mind is set upon, though not quite proper, will hurt the patient less than a positive refusal. In a word, whatever he was fond of, or used to be delighted with, when in health, may here be tried; as pleasing stories, soft music, or whatever has a tendency to soothe the passions, and compose the mind. Boerhaave proposes several mechanical experiments for this purpose; as the soft noise of water distilling by drops into a bason, and the patient trying to reckon them, &c. Any uniform sound, if low, and continued, has a tendency to procure sleep, and consequently may be of service.

The aliment ought to be light, consisting chiefly of farinaceous substances; as panado, and water-gruel, sharpened with jelly of currants or juice of lemons, ripe fruits roasted or boiled, jellies, preserves, &c. The drink small, diluting and cooling; as whey, barley-water, or decoctions of barley and tamarinds, which latter not only renders the liquor more palatable, but likewise more beneficial, as they are of an opening nature.

Treatment.—In an inflammation of the brain, nothing more certainly relieves the patient than a free discharge of blood from the nose. When this comes of its own accord, it is by no means to be stopped, but rather promoted, by applying cloths dipped in warm water to the part. When bleeding at the nose does not happen spontaneously, it may be provoked, by putting a straw, or any other sharp body up the nostril.

Bleeding from the temporal arteries greatly relieves the head; but as this operation cannot always be performed, we would recommend in its stead bleeding in the jugular veins. When the patient's pulse and spirits are so low that he cannot bear bleeding with the lancet, leeches may be applied to the temples. These not only draw off the blood more gradually, but, by being applied nearer to the part affected, generally give more immediate relief.

The next step will be to direct the head to be shaved, and to apply a large blister over it. Linen cloths wetted with vinegar and water, cold spirituous lotions, diluted æther, or iced-water, may likewise be kept constantly to the temples and forehead; renewing them as they become dry. Cold applied over the seat of the brain by means of a wet towel, or other similar medium, will indeed in many cases, prove more efficacious than the application of a blister, as this has been observed occasionally not only to accelerate the pulse, but also render the patient more ungovernable. The feet should be frequently placed in warm water; and to assist in diminishing the determination of blood to the head, the

patient should be kept as near as possible in the erect posture as can conveniently be borne.

A discharge of blood from the hæmorrhoidal veins is likewise of great service, and ought by all means to be promoted. If the patient has been subject to the bleeding piles, and that discharge has been stopped, every method must be tried to restore it; as the application of leeches to the parts, sitting over the steams of warm water, sharp clysters, or suppositories made of honey, aloes, and rock-salt.

If the inflammation of the brain be occasioned by the stoppage of evacuations either natural or artificial, as the menses, issues, setons, or such like, all means must be used to restore them as soon as possible, or to substitute others in their stead.

The patient's body must be kept open by stimulating clysters or smart purges,* and small quantities of nitre ought frequently to be mixed with his drink. Two or three drachms, or more, if the case be dangerous, may be used in the space of twenty-four hours.

The feet ought frequently to be bathed in lukewarm water, and soft poultices of bread and milk may be kept constantly applied to them.

I must further observe, that, though this species of inflammation ought to be treated nearly as other inflammatory disorders are, yet more than ordinary care should be used to keep the patient in a state of as much ease, composure, and tranquillity as possible. A strict attention to my former hints on this head will often do more good than the best medicines. It should be considered that a sore will not bear the touch of a feather, and that the nerves of an inflamed brain are still more unfit to endure the least irritation, without torture, and without danger. Even light, sound, or whatever may make a strong impression on the senses, is carried with such rapidity and force to the brain, as to increase the inflammation, and disorder the very organs by which it was conveyed. A docile and sensible nurse is, in such cases, of as much service, as the most enlightened physician.

When inflammation of the brain is a symptom of some other disease, it will not require our using active purgatives; on the contrary, the body should be kept open with gentle aperients, or laxative clysters, administered from time to time as occasion may require. In most cases the application of a blister to the neck, or between the shoulders, will be proper. As a medicine, the patient may take, in both species of this inflammation, a diaphoretic bolus†

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* Take Submuriate of Mercury, 2 grs.
Extract. of Colocynth, 6 grs.
Make three pills for a dose.

or

Take Submuriate of Mercury, 6 grs.
Powdered Jalap, 1 sple.
Make a cathartic powder.

or

Take Sulphate of Soda, 1 oz.
Distilled Water, 6 oz.
Syrup of Buckthorn, 2 drs.
Make a mixture, of which let four table-spoonsful be taken every two hours until the bowel copiously respond.

or

Take Tartrate of Potass, 3 drs.
Powdered Rhubarb, ½ dr.
Infusion of Senna, 6 oz.
Syrup of Orange-peel, ½ oz.
Make a mixture, and let four table-spoonsful be taken every two hours, &c.

† Take Camphor, 3 grs.
Antimonial Powder, 5 grs.
Confection of Roses, enough to make a small bolus.

every three hours, washing it down with three table-spoonsful of some febrifuge mixture.*

CHAP. XIX.

OPHTHALMIA, OR INFLAMMATION OF THE EYES

This disease may be occasioned by external injuries; as blows, burns, bruises, and the like. It may likewise proceed from dust, quick-lime, or other substances, getting into the eyes. It is often caused by the stoppage of customary evacuations; as the healing of old sores, drying up of issues, the suppressing of gentle morning sweats, or of the sweating of the feet, &c. Long exposure to the night air, especially in cold northerly winds, or whatever suddenly checks the perspiration, especially after the body has been much heated, is very apt to cause an inflammation of the eyes. Viewing snow, or other white bodies, for a long time, or looking steadfastly at the sun, a clear fire, or any bright object, will likewise occasion this malady. A sudden transition from darkness to very bright light will often have the same effect.

Nothing more certainly occasions an inflammation of the eyes than night-watching, especially reading or writing by candle-light. Drinking spirituous liquors, and excess of venery, are likewise very hurtful to the eyes. The acrid fumes of metals, and of several kinds of fuel, are also pernicious. Sometimes an inflammation of the eyes proceeds from a venereal taint, and often from a scrophulous or gouty habit. It may likewise be occasioned by hairs in the eye-lids turning inwards, and hurting the eyes. Sometimes the disease is epidemic, especially after wet seasons; and I have frequently known it prove infectious, particularly to those who lived in the same house with the patient. It may be occasioned by moist air, or living in low damp houses, especially in persons who are not accustomed to such situations. In children it often proceeds from imprudently drying up of scabbed heads, a running behind the ears, or any other discharge of that kind. Inflammations of the eyes often succeed the small-pox or measles, especially in children of a scrophulous habit.

Symptoms.—An inflammation of the eyes is attended with acute pain, heat, redness, and swelling. The patient is not able to bear the light, and sometimes he feels a pricking pain, as if his eyes were pierced with a thorn. Sometimes he imagines his eyes are full of motes, or thinks he sees flies dancing before him. The eyes are filled with a scalding rheum, which rushes forth in great quantities, whenever the patient attempts to look up. The pulse

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* Take Lemon Juice, 1½ oz.
Subcarbonate of Ammonia ½ dr.
Mint Water, 1 oz.
Pure Water, 4 oz.
Nitrate of Potash, 1 dr.
Syrup of Roses, 2 drs.
Make a mixture. To be taken as above.

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of tartar, every second or third day, or a decoction of tamarinds with senna. If these be not agreeable, small doses of rhubarb and nitre, a little of the lenitive electuary, or any other mild purgative, will answer the same end. The patient at the same time must drink freely of water-gruel, tea, whey, or any other weak diluting liquor. He ought likewise to take, at bed-time, a large draught of very weak wine-whey, in order to promote perspiration. His feet and legs must frequently be bathed in lukewarm water, and his head shaved twice or thrice a-week, and afterwards washed in cold water. This has often a remarkably good effect.

If the inflammation does not yield to these evacuations, blisters must be applied to the temples, behind the ears, or upon the neck, and kept open for some time by the mild blistering-ointment, or they may be frequently renewed, which is often preferable. I have seldom known these, if long enough kept open, fail to remove the most obstinate inflammation of the eyes; but for this purpose it is often necessary to continue the discharge for several weeks.

To abate the inflammation, it is customary to have recourse to the frequent application of some cooling and astringent wash. Such remedies, applied to the eye by means of an eye-cup, or by wet pledgets, prove, doubtless, highly serviceable. Any of the undermentioned may, therefore, be used with this view; and where the pain is very acute, forty or fifty drops of the vinous tincture of opium may be added to any of them; or the eye may be frequently bathed with a decoction of bruised poppy-heads. In such cases a quarter of a grain of solid opium may also be taken internally, and repeated every four or six hours.*

For the purpose of allaying heat and inflammation of the eyes, some practitioners give the preference to warm instead of cold collyria; and among this number is Mr. Ware. The fact is, that inflammations of the eyes are known to yield sometimes to cold, and sometimes to warm fomentations. In cases of high irritation the warm may be used; but the alternate use of cold and hot applications has sometimes succeeded when neither of them singly appeared capable of putting an end to the diseased action.

When the disease has been of long standing, I have seen very extraordinary effects from a seton in the neck, or between the shoulders, especially the latter. It should be put upwards and downwards, or in the direction of the spine, and in the middle between the shoulder blades. It may be dressed twice a-day with yellow basilicon. I have known patients, who had been blind for a considerable time, recover sight by means of a seton placed as

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* Take Sulphate of Zinc,
Superacetate of Lead, of each, 8 grains.
Mix them for an eye-wash.

or

Take Solution of the Acetate of Ammonia,
Rose Water, of each, 2 ounces.
Camphor Mixture, 1 ounce.
Mix them.

or

Take Purified Alum, ½ drachm.
Rose Water, 6 ounces.
Mix them.

or

Take Rose Water, 3 ounces.
Solution of the Acetate of Lead, 18 drops.
Mix them.

or

Take Sulphate of Zinc, 10 grains.
Rose Water,
Camphor Mixture, each, 3 ounces.
Mix them.

above. When the seton is put across the neck, it soon wears out, and is both more painful and troublesome than between the shoulders; besides, it leaves a disagreeable mark, and does not discharge so freely.

When the heat and pain of the eyes are very great, a poultice of bread and milk, softened with sweet oil or fresh butter, may be applied to them, at least all night; and they may be bathed with lukewarm milk and water in the morning.

If the patient cannot sleep, which is sometimes the case, he may take twenty or thirty drops of laudanum, or two spoonsful of syrup of poppies, over-night, more or less according to his age, or the violence of the symptoms.

After the inflammation is gone off, if the eyes still remain weak and tender, they may be bathed every night and morning with cold water and a little brandy, six parts of the former to one of the latter. A method should be contrived by which the eye can be quite immersed in the brandy and water, where it should be kept for some time. I have generally found this, or cold water and vinegar, as good a strengthener of the eyes as any of the most celebrated collyria.*

When an inflammation of the eyes proceeds from a scrophulous habit, it generally proves very obstinate. In this case the patient's diet must not be too low, and he may be allowed to drink small negus, or now and then a glass of wine. The most proper medicine is the Peruvian bark, which may either be given in substance, or otherwise.

If ophthalmia be dependent on a venereal taint, mercury is the remedy to be depended upon for its removal. When it arises in a scrophulous habit, affecting the tarsi, or edges of the eye-lids, and is attended with ulcerations, as is often the case, Peruvian bark, with alteratives, mineral waters, and sea-bathing, will be the most proper remedies. In these cases the bark combined with hemlock has sometimes proved serviceable. At the same time that the use of these remedies is continued, the edges of the eyelids may be smeared, morning and night, with a little ointment,† composed of mercury, or the sulphate of zinc.

It will be proper frequently to look into the eyes, to see if any hairs be turned inwards, or pressing upon them.‡ These ought to be removed by plucking them out with a pair of small pincers.

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* After the active stage of the inflammation has terminated, and the bloodvessels of the eye appear turgid and relaxed, excellent effects are often found to result from letting a drop or two of the tincture of opium fall into the eye. In this state the eye will bear the application of active stimuli with more advantage than is commonly believed.—In scrophulous inflammation of the eyes, sea-bathing, together with keeping the body open by gentle purgatives of sea-water, are eminently useful. I lately witnessed a case where the aqueous humour of the eye had become so turbid, that the patient, evidently of a scrophulous habit, could hardly distinguish light from darkness, which was almost wholly removed, and sight in great measure restored, by persisting in a course of sea-bathing during the months of summer. A. P. B.

† Take Ointment of the Nitrate of Mercury,
Prepared Lard, of each, ½ ounce.
Make an ointment.

or

Take Sulphate of Zinc, 1 scruple.
Prepared Lard, 1 ounce.
Make an ointment.

‡ Any foreign body lodged in the eye may be expeditiously removed by passing a small hair pencil between the eyelid and the ball of the eye. In some places the peasants do this very effectually, by using their tongue in the same manner.

Those who are liable to frequent returns of this disease ought constantly to have an issue in one or both arms. Bleeding or purging in the spring and autumn will be very beneficial to such persons. They ought likewise to live with the greatest regularity, avoiding strong liquor, and every thing of a heating quality. Above all, let them avoid the night air and late studies.* It may also be necessary, to prevent a return of ophthalmia, to continue the use of blisters behind the ears, or an issue or seton. The cold bath, employed by immersing the whole body, or by washing the head in cold water once or twice a-day, is also a powerful means of prevention. Also the application of cold water to the eyes themselves, or of any astringent collyrium, by means of an eye-cup, two or three times a-day, may likewise be serviceable in preventing its return, or removing it after it has become habitual. Tonics have also been adopted with this intention, and with the best effects.

CHAP. XX.

QUINSEY, OR INFLAMMATORY SORE THROAT.
(Cynanche Tonsillaris.)

This disease is very common in Britain, and is frequently attended with great danger, occupying the glands, such as the tonsils, but frequently extending throughout the whole mucous membrane of the fauces, so as essentially to interrupt the speech, respiration, and deglutition f the patient. It prevails in the winter and spring, and is most fatal to young people of a sanguine temperament.

Causes.—In general it proceeds from the same causes as other inflammatory disorders, viz. exposure to cold, an obstructed perspiration, or whatever heats or inflames the blood. An inflammation of the throat is often occasioned by omitting some part of the covering usually worn about the neck, by drinking cold liquor when the body is warm, by riding or walking against a cold northerly wind, or any thing that greatly cools the throat and parts adjacent. It may likewise proceed from the neglect of bleeding, purging, or stoppage of any customary evacuation.

Singing, speaking loud and long, or whatever strains the throat, may likewise cause an inflammation of that organ. I have often known the quinsey prove fatal to jovial companions, who, after sitting long in a warm room, drinking hot liquors, and singing with vehemence, were so imprudent as to go abroad in the cold night air. Sitting with wet feet, or keeping on wet clothes, are very apt to occasion this malady. It is likewise frequently occasioned by continuing long in a moist place, sitting near an open window, sleeping in a damp bed, sitting in a room that has been

* As most people are fond of using eye-waters and ointments in this and other diseases of the eyes, we have inserted some of the most approved form of these medicines in the Appendix. See Appendix, *Eye-water* and *Eye-salve*.

newly plastered, &c. I know people who never fail to have a sore throat if they sit even but a short time in a room that has been lately washed.

Acrid or irritating food may likewise inflame the throat, and occasion a quinsey. It may also proceed from bones, pins, or other sharp substances sticking in the throat, or from the caustic fumes of metals or minerals, as arsenic, antimony, &c. taken in by the breath. This disease is sometimes epidemical and infectious.

Symptoms.—The inflammation of the throat is evident from inspection, the parts appearing red and swelled; besides, the patient complains of pain in swallowing. His pulse is quick and hard, with other symptoms of a fever. If blood be drawn, it is generally covered with a tough coat of a whitish colour, and the patient spits a viscid phlegm. As the swelling and inflammation increase, the breathing and swallowing become more difficult; the pain affects the ears; the eyes generally appear red, and the face swells. The patient is often obliged to keep himself in an erect posture, being in danger of suffocation; there is a constant nausea, or inclination to vomit, and the drink, instead of passing into the stomach, is often returned by the nose. The patient is sometimes starved at last merely from an inability to swallow any kind of food.

When the breathing is laborious, with straitness of the breast and anxiety, the danger is great. Though the pain in swallowing be very great, yet while the patient breathes easy there is not so much danger. An external swelling is no unfavourable symptom; but if it suddenly falls, and the disease affects the breast, the danger is very great. When a quinsey is the consequence of some other disease, which has already weakened the patient, his situation is dangerous. A frothing at the mouth, with a swelled tongue, a pale, ghastly countenance, and coldness of the extremities, are fatal symptoms.

Regimen.—The regimen in this disease is in all respects the same as in the pleurisy, or peripneumony. The food ought to be light, and in small quantity, and the drink plentiful, weak, and diluting, mixed with acids, although a rigid observance of the antiphlogistic regimen is the most proper.

It is highly necessary that the patient be kept easy and quiet. Violent affections of the mind, or great efforts of the body, may prove fatal. He should not even attempt to speak but in a low voice. Such a degree of warmth as to promote a constant, gentle perspiration, is proper. When the patient is in bed, his head ought to be raised a little higher than usual.

It is peculiarly necessary that the neck be kept warm; for which purpose several folds of soft flannel may be wrapt round it. That alone will often remove a slight complaint of the throat, especially if applied in due time. We cannot here omit observing the propriety of a custom which prevails among the peasants in Scotland. When they feel any uneasiness of the throat, they wrap a stocking about it all night. So effectual is this remedy, that in many places it passes for a charm, and the stocking is applied with par-

ticular ceremonies: the custom, however, is undoubtedly a good one, and should never be neglected. When the throat has been thus wrapped up all night, it must not be exposed to the cold air through the day, but a handkerchief, or a piece of flannel, kept about it till the inflammation be removed.

The jelly of black currants is a medicine very much in esteem for complaints of the throat; and, indeed, it is of some use. It should be almost constantly kept in the mouth, and swallowed down leisurely. It may likewise be mixed in the patient's drink, or taken any other way. When it cannot be obtained, the jelly of red currants, or of mulberries, may be used in its stead.

Gargles for the throat are very beneficial. They may be made of sage-tea, with a little vinegar and honey, or by adding to half an English pint of the pectoral decoction two or three spoonsful of honey, and the same quantity of currant jelly. This may be used three or four times a-day; and if the patient be troubled with tough viscid phlegm, the gargle may be rendered more sharp and cleansing, by adding to it a tea-spoonful of *sal volatile*, or any of the annexed forms:*

There is no disease in which the benefit of bathing the feet and legs in lukewarm water is more apparent: that practice ought, therefore, never to be neglected. If people were careful to keep warm, to wrap up their throats with flannel, to bathe their feet and legs in warm water, and to use a spare diet, with diluting liquors, at the beginning of this disease, it would seldom proceed to a great height, or be attended with any danger; but when these precautions are neglected, and the disease becomes violent, more powerful medicines are necessary.

MEDICINE.—An inflammation of the throat being a most acute and dangerous distemper, which sometimes takes off the patient very suddenly, it will be proper, as soon as the symptoms appear, to bleed in the arm, or rather in the jugular vein, and to repeat the operation if circumstances require.

The body should likewise be kept gently open. This may either be done by giving the patient for his ordinary drink a decoction of saline aperients, figs, and tamarinds, or small doses of rhubarb and nitre, as recommended in the erysipelas. These may be increased according to the age of the patient, and repeated till they have the desired effect.

I have often known very good effects from a bit of *sal prunel*, or purified nitre, held in the mouth and swallowed down as it melted. This promotes the discharge of *saliva*, by which means it answers the end of a gargle, while at the same time it abates the fever, by promoting the discharge of urine, &c.

At the commencement of inflammatory sore throat, and before the febrile symptoms have become any way violent, an early emetic is often of great benefit, and not unfrequently checks its formation.

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* Take Confection of the Red Rose, 1 oz.
Boiling Water, ½ pint.
Diluted Sulphuric Acid, 1 drm.
Mix for a gargle.

or

Take Barley-water, 6 oz.
Honey of Roses, 1 oz.
Diluted Sulphuric Acid, 1 drm.
Make a gargle.

The throat ought likewise to be rubbed twice or thrice a-day with a little of the volatile liniment. This seldom fails to produce some good effects. At the same time the neck ought to be carefully covered with wool or flannel, to prevent the cold from penetrating the skin, as this application renders it very tender. Many other external applications are recommended in this disease, as a swallow's nest, poultices made of the fungus called Jew's ears, album Græcum, &c.; but as we do not look upon any of these to be preferable to a common poultice of bread and milk, we shall take no further notice of them.

When white sloughy specks appear in the throat, the gargles advised in putrid sore throat may be used. If a disposition to gangrene should manifest itself, those of an antiseptic nature should be immediately adopted, and the best are those composed of bark, myrrh,* port-wine, or of capsicum and vinegar.

Some recommend the gum-guaiacum as a specific in this disease. Half a drachm of the gum in powder may be made into an electuary with the rob of elderberries, or the jelly of currants, for a dose, and repeated occasionally.†

Blistering upon the neck, or behind the ears, in violent inflammations of the throat, is very beneficial; and in bad cases, it will be necessary to lay a blister quite across the throat, so as to reach from one ear to the other ear. After the plasters are taken off, the parts ought to be kept discharging by the application of issue ointment, till the inflammation is gone; otherwise, upon their drying up, the patient will be in danger of a relapse.

When the patient has been treated as above, a suppuration seldom happens. This, however, is sometimes the case, in spite of all endeavours to prevent it. When the inflammation and swelling continue, and it is evident that a suppuration will ensue, it ought to be promoted by drawing the steam of warm water into the throat through a funnel, or the like. Soft poultices ought likewise to be applied outwardly, and the patient may keep a roasted fig constantly in his mouth.

It sometimes happens, before the tumour breaks, that the swelling is so great, as entirely to prevent any thing from getting down into the stomach. In this case, the patient must inevitably perish, unless he can be supported in some other way. This can only be done by nourishing clysters of broth, or gruel with milk, &c. Patients have often been supported by these for several days, till the tumour has broke; and afterwards they have recovered.

Not only the swallowing, but the breathing is often prevented by the tumour. In this case nothing can save the patient's life, but opening the *trachea* or windpipe. As that has been often done with success, no person, in such desperate circumstances, ought to hesitate a moment about the operation; but as it can only be performed by a surgeon, it is not necessary here to give any directions about it.

When a difficulty of swallowing is not attended with an acute

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* Take Infusion of Roses, 6 oz. Honey of Borax. 2 drs.
Tincture of Myrrh, ½ oz. Mix for a gargle.

† Dr. Home.

pain or inflammation, it is generally owing to an obstruction of the glands about the throat, and only requires that the part be kept warm, and the throat frequently gargled with something that may gently stimulate the glands, as a decoction of figs with vinegar and honey; to which may be added a little mustard, or a small quantity of spirits. But this gargle is never to be used where there are signs of an inflammation. This species of *angina* has various names among the common people, as *the pap of the throat*, the falling down of the *almonds of the ears*, &c. Accordingly, to remove it, they lift the patient up by the hair of the head, and thrust their fingers under his jaws, &c.; all which practices are at best useless, and often hurtful.

Those who are subject to inflammations of the throat, in order to avoid that disease, ought to live temperate. Such as do not choose to observe this rule, must have frequent recourse to purging and other evacuations, to discharge the superfluous humours. They ought likewise to beware of catching cold, and should abstain from aliment and medicines of an astringent or stimulating nature. Violent exercise, by increasing the motion and force of the blood, is apt to occasion an inflammation of the throat, especially if cold liquor be drank immediately after it, or the body suffered suddenly to cool. Those who would avoid this disease ought, therefore, after speaking aloud, singing, running, drinking warm liquor, or doing any thing that may strain the throat, or increase the circulation of the blood towards it, to take care to cool gradually, and to wrap some additional covering about their necks.

I have often known persons who had been subject to sore throats, entirely freed from that complaint by only wearing a riband, or a bit of flannel, constantly about their necks, or by wearing thicker shoes, a flannel waistcoat, or the like. These may seem trifling, but they have great effect. There is danger indeed in leaving them off after persons have been accustomed to them; but surely the inconveniency of using such things for life, is not to be compared with the danger which may attend the neglect of them.

Sometimes, after an inflammation, the glands of the throat continue swelled, and become hard and callous. This complaint is not easily removed, and is often rendered dangerous by the too frequent application of strong stimulating and styptic medicines. The best method is to keep it warm, and to gargle it twice a-day with a decoction of figs, sharpened a little with diluted sulphuric acid.

Malignant Quinsey, or Putrid Ulcerous Sore Throat. *(Cynanche Maligna.)*

This kind of sore throat is but little known in the northern parts of Britain, though for some time past it has been fatal in the more southern counties. Children are more liable to it than adults, females than males, and the delicate than those who are hardy and robust. It prevails chiefly in autumn, and is most frequent after a long course of damp or sultry weather.

It is readily distinguished from the inflammatory quinsey by the soreness and white specks or aphthæ covering ulcers which appear in the fauces, together with the great debility of the system, a

small fluttering pulse, and an eruption on the skin of the same nature with that of scarlet fever, which are to be observed in the former; whereas in the latter there is always considerable difficulty of breathing, a considerable degree of swelling, with a tendency in the parts to suppurate, and a hard pulse. Also in the seat of the disease, which in the former is principally in the nervous membrane of the mouth and throat, and the accompanying fever is of the typhoid kind; whereas, in the latter, it chiefly occupies the glandular parts, and the fever is of the inflammatory type.

Causes.—This is evidently a contagious distemper, and is generally communicated by infection. Whole families, and even entire villages, often receive the infection from one person. This ought to put people upon their guard against going near such patients as labour under the disorder; as by that means they endanger not only their own lives, but likewise those of their friends and connexions. Whatever tends to produce putrid or malignant fevers, may likewise occasion the putrid ulcerous sore throat, as unwholesome air, damaged provisions, neglect of cleanliness, &c.

In some instances the symptoms of scarlet fever and putrid sore throat are so blended, that it is frequently difficult to pronounce of which the disease partakes most; this, however, is of little importance in a practical point of view, as both require the same mode of treatment.

Symptoms.—It begins with alternate fits of shivering and heat. The pulse is quick, but low and unequal, and generally continues so through the whole course of the disease. The patient complains greatly of weakness and oppression of the breast; his spirits are low, and he is apt to faint away when set upright; he is troubled with a nausea, and often with a vomiting or purging. The two latter are most common in children. The eyes appear red and watery, and the face swells. The urine is at first pale and crude; but, as the disease advances, it turns more of a yellowish colour. The tongue is white, and generally moist, which distinguishes this from an inflammatory disease. Upon looking into the throat, it appears swelled, and of a florid red colour. Pale or ash-coloured spots, however, are here and there interspersed, and sometimes one broad patch or spot, of an irregular figure, and pale white colour, surrounded with florid red, only appears. These whitish spots or sloughs cover so many ulcers.

An efflorescence, or eruption upon the neck, arms, breast, and fingers, about the second or third day, is a common symptom of this disease. When it appears, the purging and vomiting generally cease.

There is often a slight degree of delirium, and the face frequently appears bloated, and the inside of the nostrils red and inflamed. The patient complains of a disagreeable putrid smell, and his breath is very offensive.

The putrid, ulcerous sore throat may be distinguished from the inflammatory, by the vomiting and looseness with which it is generally ushered in; the foul ulcers in the throat covered with a white or livid coat; and by the excessive weakness of the patient; with other symptoms of a putrid fever.

Unfavourable symptoms are, an obstinate purging, extreme weakness, dimness of the sight, a livid or black colour of the spots, and frequent shiverings, with a weak, fluttering pulse. If the eruption upon the skin suddenly disappears, or becomes of a livid colour, with a discharge of blood from the nose or mouth, the danger is very great.

If a gentle sweat break out about the third, or fourth day, and continue with a slow, firm, and equal pulse; if the sloughs cast off in a kindly manner, and appear clean and florid at the bottom; and if the breathing is soft and free, with a lively colour of the eyes, there is reason to hope for a salutary crisis.

Regimen.—The patient must be kept quiet, and for the most part in bed, as he will be apt to be faint when taken out of it. His food must be nourishing and restorative; as sago-gruel with red-wine, jellies, strong broths, &c. His drink ought to be generous, and of an antiseptic quality; as red-wine negus, white-wine whey, and such like.

Medicine.—The medicine in this kind of quinsey is entirely different from that which is proper in the inflammatory. All evacuations, as bleeding, purging, &c. which weaken the patient, must be avoided. Cooling medicines, as nitre and cream of tartar, are likewise hurtful. Strengthening cordials alone can be used with safety; and these ought never to be neglected.

If at the beginning there is a great nausea, or inclination to vomit, the patient must drink an infusion of green tea, camomile flowers, or *carduus benedictus*, in order to cleanse the stomach. If these are not sufficient, he may take a few grains of the powder of ipecacuanha, or any other gentle vomit.

If the disease be mild, the throat may be gargled with an infusion of sage and rose leaves, to a gill of which may be added a spoonful or two of honey, and as much vinegar as will make it agreeably acid; but when the symptoms are urgent, the sloughs large and thick, and the breath very offensive, the following or similar* gargles may be used:

To six or seven ounces of the pectoral decoction, when boiling, add half an ounce of contrayerva root; let it boil for some time, and afterwards strain the liquor; to which add two ounces of white-wine vinegar, an ounce of fine honey, and an ounce of the tincture of myrrh. This ought not only to be used as a gargle, but a little of it should frequently be injected with a syringe to clean the throat, before the patient takes any meat or drink. This method is peculiarly necessary for children, who cannot use a gargle. No degree of force, however, is to be used to effect a separation of the sloughs; and if, after a continuation of the gargles for some time, the sloughs should not begin to separate, all that can

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*Take Decoction of P. Bark, 6 ounces.
Muriatic Acid, 1 drachm.
Compound Tinct. of Cinnamon, ½ ounce.
Tincture of Myrrh, 1 ounce.
Make a gargle; to be used as above.

or

Take Honey of Roses, 1 ounce.
Barley Water, 10 ounces.
Tincture of Myrrh, ½ ounce.
Vinegar, 1 ounce.
Mix, and make a gargle.

safely be done is to touch them with a little alum, or the muriatic acid mixed with honey, and applied by means of a piece of lint, or a hair pencil.

It will be of great benefit if the patient frequently receives into his mouth, through an inverted funnel, the steams of warm vinegar, myrrh, and honey.

But when the putrid symptoms run high, and the disease is attended with danger, the only medicine that can be depended upon is the Peruvian bark. It may be taken in substance, if the patient's stomach will bear it. If not, an ounce of bark grossly powdered, with two drachms of Virginian snake-root, may be boiled in an English pint and a half of water to half a pint; to which a tea-spoonful of the diluted sulphuric acid may be added, and an ordinary teacupful of it taken every three or four hours. Blisters are very beneficial in this disease, especially when the patient's pulse and spirits are low. They may be applied to the throat, behind the ears, or upon the back part of the neck.

Should the vomiting prove troublesome, it will be proper to give the patient two table-spoonsful of the saline mixture in a state of effervescence by opiate joined with camphor, and cloths wetted in tincture of opium applied to the pit of the stomach. Mint tea and a little cinnamon will be very proper for the ordinary drink, especially if an equal quantity of red wine be mixed with it.

If a diarrhœa should rise in the progress of the disease, powerful astringents* must be immediately resorted to, to which may be added wine or brandy mulled up with spice. Every means must be adopted to put an immediate stop to it, as at all periods of this disease, diarrhœa is a very dangerous symptom.

If bleeding from the nose occur, the steam of warm vinegar may be frequently inhaled up the nostrils, and the drink be sharpened with sulphuric acid, or tincture of roses.

And as hemorrhage from the nose is not an uncommon occurrence in putrid sore throats, as well as from the mouth and ears, and as it never proves critical, or is attended with any salutary effect, but, on the contrary, threatens the greatest danger, it ought to be immediately stopped by administering strong antiseptics internally, as advised under the head of *Malignant Fever;* and by the external application of tents dipped in some powerful styptics, as a solution of the sulphate of copper.†

In case of a strangury, the belly must be fomented with warm water, and emollient clysters given three or four times a-day. After the violence of the disease is over, the body should still be kept open with mild purgatives; as manna, senna, rhubarb, or the like.

If great weakness and dejection of spirits, or night-sweats, with other symptoms of a consumption, should ensue, we would advise the patient to continue the use of the Peruvian bark, with the

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* Take Aromatic Confection, 1 drachm.
Chalk Mixture 2 ounces.
Cinnamon Water, 1½ ounce.
Tincture of Opium, 20 to 30 dps.
Tincture of Catechu, 1 drachm.
Make a mixture; of which two table-spoonsful may be given every four hours.

† Take Sulphate of Cother, 1½ drachm.
Alum, ½ drachm.
Water, 7 ounces.
Rectified Spirit, 1 ounce.
Make a styptic solution.

elixir of vitriol, and to take frequently a glass of generous wine. The quantity of wine allowed ought to be in proportion to the age of the patient, the violence of the febrile symptoms, the degree of debility that exists, or the tendency there is to putrescency. These, together with a nourishing diet, and riding on horse-back, are the most likely means for recovering his strength.

The quinsey, being a local disease, is generally caught by exposing the throat to a draught of cold air. I know many people, who are sure to be troubled with this complaint if they stand or sit near an open window, or continue for any length of time in a room lately washed. There is not a readier or more certain way to catch a quinsey, than sitting near an open window in a carriage, especially during the night, or when the weather is cold or damp.

The inflammatory sore throat, though it sometimes comes to a suppuration, generally yields to the method of treatment recommended in this chapter. Cases, however, occur, where the power of swallowing is lost, and the patient perishes from the mere want of sustenance. I lately saw a very ingenious invention of a young surgeon, by which a man's life was saved in a case of this kind. He fastened a funnel to the skin of an eel, open at both ends; and, by means of a flexible probe, pushed one end down the gullet, till it entered the stomach. Afterwards, milk, broth, or whatever was deemed proper for nourishing the patient, was put into the funnel, and conveyed to the stomach. Though I mention this chiefly with a view of directing others in the like alarming situations, yet it may also serve to confirm an opinion, often avowed by the late JOHN HUNTER, and well illustrated in his own practice, that presence of mind, and a readiness or fertility of mechanical contrivance, may sometimes prove more serviceable in a critical moment, than all the resources of science.

But the most dangerous kind of quinsey, as I before observed, is that attended with a putrid fever, commonly called the malignant quinsey, or putrid ulcerous sore throat. Whenever the symptoms of this appear, I cannot too urgently advise the patient's friends to lose no time in procuring for him the best medical assistance they can obtain. The delay of an hour may be attended with irreparable injury.

MUMPS. *(Cynanche Parotidæa.)*

The Mumps is a swelling of the glands about the throat, which is occasionally observed to be epidemic in certain districts of this country. This disease generally makes its appearance in spring, and young persons of both sexes are much more liable to be attacked by it, than those farther advanced in life. It is preceded by heaviness, lassitude, and a general sensation of uneasiness, which continue for several days. Stiffness, pain, and difficulty of motion, is then perceived about the articulation of the lower jaw. A swelling of the glands situated under the jaws, and diffused over the neck, next takes place, which sometimes increases to so enormous a magnitude, as greatly to disfigure the countenance. There is a good deal of fever, as indicated by the increased frequency of the pulse. About the fourth day from the commencement of the

tumefaction, the disease is at the height. A gentle moisture then begins to exude from the surface of the swelling, accompanied with a general perspiration of the whole body, which, if it be encouraged by keeping warm in bed, and drinking diluent fluids, appears to form the natural crisis of the disease, and the whole terminates favourably about the sixth day.

But if, from exposure to cold, or improper management, this natural process of the disease be interrupted, a singular translation of the morbid action takes place. The tumours about the throat suddenly subside, and are followed by swellings of the testicles in the male sex, and of the breasts in the female, accompanied with a fresh exacerbation of the fever. If the swellings of these parts be imprudently checked by exposure to cold, or if they suddenly subside, the brain is apt to become affected, occasioning convulsions, delirium, and other dreadful symptoms, which finally terminate in death.

In the treatment of this disease, evacuations of all kinds are not only improper, but dangerous. If the bowels are much constipated, they may occasionally be relieved by a clyster, but active purgatives, and blood-letting, must on no account be employed. The patient ought to keep warm in bed, and encourage perspiration, by drinking plentifully of diluting liquors, such as mint-whey, or balm-tea, with a few drops of spirit of hartshorn. The effort of nature to resolve the tumours by exudation, should be promoted by covering the parts with soft flannel. If the swellings show a disposition to subside too early, they should be covered with blistering plasters, or rubbed with the volatile liniment.

Should the tumour, when seated in the testicles, suddenly subside, and any tendency to delirium manifest itself, the whole scrotum ought, without delay, to be enveloped in a blistering cataplasm, which is made by sprinkling a little of the powder of Spanish flies over the surface of the common poultice. By this means the disease may be arrested in the part occupied by it, and the dangerous consequences of its falling on the brain prevented.

It is not an uncommon sequel of this complaint to find sometimes one and sometimes both testicles, after the inflammation has ceased, gradually shrink in size, and finally wither wholly away. The mumps, which in the northern parts of the country, is termed the *branks*, is decidedly an infectious disease, but there is rarely an instance of a person being attacked by it a second time.

CHAP. XXI.

COLDS AND COUGHS. *(Catarrhal Affections.)*

It has already been observed, that colds are the effect of an obstructed perspiration; the common causes of which we have likewise endeavoured to point out, and shall not here repeat them. Neither shall we spend time in enumerating all the various symp-

toms of colds, as they are pretty generally known. It may not, however, be amiss to observe, that almost every cold is a kind of fever, which only differs in degree from some of those that have already been treated of.

No age, sex, or constitution, is exempted from this disease; neither is it in the power of any medicine or regimen to prevent it. The inhabitants of every climate are liable to cat h cold, nor can even the greatest circumspection defend them at all times from its attacks. Indeed, if the human body could be kept constantly in an uniform degree of warmth, such a thing as catching cold would be impossible: but as that cannot be effected by any means, the perspiration must be liable to many changes. Such changes, however, when small, do not affect the health; but when great, they must prove hurtful.

When oppression of the breast, a stuffing of the nose, unusual weariness, pain of the head, &c. give ground to believe that the perspiration is obstructed, or in other words, that the person has caught cold, he ought immediately to lessen his diet, at least the usual quantity of his solid food, and to abstain from all strong liquors. Instead of flesh, fish, eggs, milk, and other nourishing diet, he may eat light bread-pudding, veal or chicken broth, panado, gruels, and such like. His drink may be water-gruel sweetened with a little honey; an infusion of balm or linseed sharpened with the juice of bitter orange or lemon; a decoction of barley and liquorice with tamarinds, or any other cool, diluting, acid liquor.

Above all, his supper should be light; as small posset, or water-gruel sweetened with honey, and a little toasted bread in it. If honey should disagree with the stomach, the gruel may be sweetened with treacle or coarse sugar, and sharpened with the jelly of currants. Those who have been accustomed to generous liquors may take wine-whey instead of gruel, which may be sweetened as above.

The patient ought to lie longer than usual in bed, and to encourage a gentle sweat, which is easily brought on towards morning by drinking tea, or any kind of warm diluting liquor. I have often known this practice carry off a cold in one day, which in all probability, had it been neglected, would have cost the patient his life, or have confined him for some months. Would people sacrifice a little time to ease and warmth, and practise a moderate degree of abstinence when the first symptoms appear, we have reason to believe that most of the bad effects which flow from an obstructed perspiration might be prevented. But, after the disease has gathered strength by delay, all attempts to remove it often prove vain. A pleurisy, a peripneumony, or a fatal consumption of the lungs, are the common effects of colds which have either been totally neglected, or treated improperly.

Many attempt to cure a cold, by getting drunk: but this, to say no worse of it, is a very hazardous experiment. No doubt it may sometimes succeed, by suddenly restoring the perspiration; but when there is any degree of inflammation, which is frequently the case, strong liquors, instead of removing the malady, will increase it. By this means a common cold may be converted into an inflammatory fever.

When those who labour for their daily bread have the misfortune to catch cold, they cannot afford to lose a day or two, in order to keep themselves warm, and take a little medicine; by which means the disorder is often so aggravated as to confine them for a long time, or to render them ever after unable to sustain hard labour. But even such of the labouring poor as can afford to take care of themselves, are often too hardy to do it; they affect to despise colds, and as long as they can crawl about, scorn to be confined by what they call a *common cold*. Hence it is that colds destroy such numbers of mankind. Like an enemy despised, they gather strength from delay, till at length they become invincible. We often see this verified in travellers, who, rather than lose a day in the prosecution of their business, throw away their lives by pursuing their journey, even in the severest weather, with this disease upon them.

It is certain, however, that colds may be too much indulged. When a person, for every slight cold, shuts himself up in a warm room, and drinks great quantities of warm liquor, it may occasion such a general relaxation of the solids as will not be easily removed. It will, therefore, be proper, when the disease will permit, and the weather is mild, to join to the regimen mentioned above, gentle exercise; as walking, riding on horseback, &c. An obstinate cold, which no medicine can remove, will yield to gentle exercise and a proper regimen of diet.

Bathing the feet and legs in warm water has a great tendency to restore the perspiration. But care must be taken that the water be not too warm, otherwise it will do hurt. It should never be much warmer than the blood, and the patient should go immediately to bed after using it. Bathing the feet in warm water, lying in bed, and drinking warm water-gruel, or other weak liquors, will sooner take off a spasm, and restore a perspiration, than all the hot sudorific medicines in the world. This is all that is necessary for removing a common cold; and if this course be taken at the beginning, it will seldom fail.

But when the symptoms do not yield to abstinence, warmth, and diluting liquors, there is reason to fear the approach of some other disease, as an inflammation of the breast, an ardent fever, or the like. If the pulse, therefore, be hard and frequent, the skin hot and dry, and the patient complains of his head or breast, it will be necessary to bleed, and to give the cooling powders recommend d in the scarlet fever, every three or four hours, till they give a stool.

It will likewise be proper to put a blistering-plaster on the ba k to give two table-spoonsful of the saline mixture every two hours, and in short to treat the patient in all respects as for a slight fever. I have often seen this course, when observed at the beginning, re move the complaint in two or three days, when the patient had al the symptoms of an approaching ardent fever, or an inflammation of the breast.

The chief secret in preventing colds lies in avoiding, as far as possible, all extremes either of heat or cold, and in taking car , when the body is heated, to let it cool gradually. These and other circumstances relating to this important subject, are so fully treated of under the article *Obstructed Perspiration*, that it is needless here to resume the consideration of them.

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About the bulk of a nutmeg of Burgundy-pitch may be spread thin upon a piece of soft leather, about the size of the hand, and laid between the shoulder-blades. It may be taken off and wiped every three or four days, and ought to be renewed once a fortnight or three weeks. This is indeed a cheap and simple medicine, and consequently apt to be despised; but we will venture to affirm, that the whole *materia medica* does not afford an application more efficacious in almost every kind of cough. It has not indeed always an immediate effect; but, if kept on for some time, it will succeed where most other medicines fail.

The only inconvenience attending this plaster is the itching which it occasions; but surely this may be dispensed with, considering the advantage which the patient may expect to reap from the application; besides, when the itching becomes very uneasy, the plaster may be taken off, and the part rubbed with a dry cloth, or washed with a little warm milk and water. Some caution indeed is necessary in discontinuing the use of such a plaster; this however, may be safely done by making it smaller by degrees, and at length quitting it altogether in a warm season.*

But coughs proceed from many other causes besides defluxions upon the lungs. In these cases the cure is not to be attempted by pectoral medicines. Thus, in a cough proceeding from the foulness and debility of the stomach, syrups, oils, mucilages, and all kinds of balsamic do hurt. The *stomach cough* may be known from one that is owing to a fault in the lungs by this, that in the latter the patient coughs whenever he inspires, or draws in his breath fully; but in the former that does not happen.

The cure of this cough depends chiefly upon cleansing and strengthening the stomach; for which purpose, gentle emetics and bitter purgatives are most proper. Thus, after a vomit or two, the sacred tincture, as it is called, may be taken for a considerable time in the dose of one or two table-spoonsful twice a-day, or as often as it is found necessary, to keep the body gently open. People may make this tincture themselves, by infusing an ounce of *hiera picra* in an English pint of white-wine, letting it stand a few days, and then straining it off for use.†

In coughs which proceed from a debility of the stomach, the Peruvian bark is likewise of considerable service. It may either be chewed, taken in powder, or made into a tincture along with other stomachic bitters.

A *nervous cough* can only be removed by change of air, and proper exercise; to which may be added the use of gentle opiates. Instead of the saponaceous pill, the paregoric elixir, &c. which are only opium disguised, ten, fifteen, twenty, twenty-five drops of liquid laudanum, more or less, as circumstances require, may be

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* Some complain that the pitch plaster adheres too fast, while others find difficulty in keeping it on. This proceeds from the different kinds of pitch made use of, and likewise from the manner of making it. I generally find it answer best when mixed with a little bees-wax, and spread as cool as possible. The clear, hard, transparent pitch answers the purpose best.

† In the state of the stomach productive of this particular kind of cough, beneficial effects are derived from small doses of ipecacuanha. A person may begin with taking one grain at noon, and another at night, gradually augmenting the dose till it occasions some degree of nausea. Ed.

taken at bed-time, or when the cough is most troublesome.* Immersing the feet and hands in warm water will often appease the violence of a nervous cough.

When a cough is only a symptom of some other malady, it is in vain to attempt to remove it without first curing the disease from which it proceeds. Thus, when a cough is occasioned by *teething*, keeping the body open, scarifying the gums, or whatever facilitates the cutting of the teeth, likewise appeases the cough. In like manner, when *worms* occasion a cough, such medicines as remove these vermin will generally cure the cough; as bitter purgatives, oily clysters, and such like.

Women, during the last month of pregnancy are often greatly afflicted with a cough, which is generally relieved by bleeding, and keeping the body gently open. They ought to avoid all flatulent food, and to wear a loose easy dress.

A cough is not only a symptom, but is often likewise the forerunner of diseases. Thus, the gout is frequently ushered in by a very troublesome cough, which affects the patient for some days before the coming on of the fit. This cough is generally removed by a paroxysm of the gout, which should therefore be promoted, by keeping the extremities warm, drinking warm liquors, and bathing the feet and legs frequently in lukewarm water.

Hooping-cough, or Chin-cough. *(Pertussis.)*

This cough seldom affects adults, but proves often fatal to children. Such children as live upon thin watery diet, who breathe unwholesome air, and have too little exercise, are most liable to this disease, and generally suffer most from it.

The chin-cough is so well known, even to nurses, that description of it is unnecessary. Whatever hurts the digestion, obstructs the perspiration, or relaxes the solids, disposes to this disease; consequently its cure must depend upon cleansing and strengthening the stomach, bracing the solids, and at the same time promoting perspiration, and the different secretions.

The diet must be light, and of easy digestion; for children, good bread made into pap or pudding, chicken-broth, with other light spoon-meats, are proper; but those who are farther advanced may be allowed sago-gruel, and if the fever be not high, a little boiled chicken, or other white meats. The drink may be hyssop, or penny-royal tea, sweetened with honey or sugar-candy, small wine-whey, or, if the patient be weak, he may sometimes be allowed a little negus.

One of the most effectual remedies in the chin-cough is change of air. This often removes the malady, even when the change seems to be from a purer to a less wholesome air. This may in some measure depend on the patient's being removed from the place where the infection prevails. Most of the diseases of children are infectious; nor is it at all uncommon to find the chin-cough prevailing in one town or village, when another at a very small distance is quite free from it. But whatever be the cause,

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*Take Oxymel of Squills, ½ oz. Of which a table-spoonful may be taken
Paregoric Elixir, 2 drs. three or four times a-day.

we are sure of the fact. No time ought therefore to be lost in removing the patient at some distance from the place where he caught the disease, and, if possible, into a more pure and warm air.*

When the disease proves violent, and the patient is in danger of being suffocated by the cough, he ought to be bled, especially if there be a fever with a hard full pulse. But as the chief intention of bleeding is to prevent an inflammation of the lungs, and to render it more safe to give vomits, it will seldom be necessary to repeat the operation; yet if there are symptoms of an inflammation of the lungs, a second or even a third bleeding may be requisite.

It is generally reckoned a favourable symptom when a fit of coughing makes the patient vomit. This cleanses the stomach, and greatly relieves the cough. It will therefore be proper to promote this discharge, either by small doses of ipecacuanha, or the emetic mixture here subjoined in doses of a table-spoonful every fifteen minutes till it operates.†

Emetics not only cleanse the stomach, which in this disease is generally loaded with viscid phlegm, but they likewise promote the perspiration and other secretions, and ought therefore to be repeated according to the obstinacy of the disease. They should not however be strong; gentle vomits frequently repeated are both less dangerous and more beneficial than strong ones.

The body ought to be kept gently open. The best medicines for this purpose are rhubarb and its preparations, as the syrup, tincture, or submuriate of mercury and rhubarb, &c. Of these former a tea-spoonful or two may be given to an infant, twice or thrice a-day, as there is occasion. To such as are further advanced, the dose must be proportionally increased, and repeated till it has the desired effect. Those who cannot be brought to take the bitter tincture, may have an infusion of senna and prunes, sweetened with manna, coarse sugar, or honey; or a few grains of rhubarb mixed with a tea-spoonful or two of syrup, or currant jelly, so as to disguise the taste. Most children are fond of syrups and jellies, and seldom refuse even a disagreeable medicine when mixed with them.

Many people believe that oily, pectoral, and balsamic medicines possess wonderful virtues for the cure of the hooping-cough, and accordingly exhibit them plentifully to patients of every age and constitution, without considering that every thing of this nature must load the stomach, hurt the digestion, and of course aggravate the disorder.‡

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* Some think the air ought not to be changed till the disease is on the decline; but there seems to be no sufficient reason for this opinion, as patients have been known to reap benefit from a change of air at all periods of the disease. It is not sufficient to take the patient out daily in a carriage. This seldom answers any good purpose; but often does hurt, by giving him cold.

† Take Tartarized Antimony, 3 grs. Water, 6 oz. Simple Syrup, 2 drs. Make an emetic mixture; to be taken as above.

‡ Dr. Duplanil says, he has seen many good effects from the kermes mineral in this complaint, the cough being frequently alleviated even by the first dose. The dose for a child of one year old is a quarter of a grain dissolved in a cup of any liquid, repeated

Opiates are sometimes necessary to allay the violence of the cough. For this purpose, a little of the syrup of poppies, or five, six, or seven drops of laudanum, according to the age of the patient, may be taken in a cup of hyssop or penny-royal tea, and repeated occasionally, or a hemlock has been recommended; they may be combined in the following form.*

After the accumulated phlegm has been brought away by emetics, Dr. Pearson recommends a medicine composed of opium, ipecacuanha, and the carbonate of soda;† in the subjoined proportions to a child between two and three years old, to be repeated every fourth hour, for several days, taking care to remove costiveness whenever it may occur, by submuriate of mercury and rhubarb (one grain of the former to four of the latter.)

The superacetate of lead is said to relieve speedily the exacerbated symptoms of the disease, without producing any bad effects on the stomach and bowels.‡

Stimulating or anodyne embrocations frequently afford relief; and may be rubbed along the spine, breast bone, or lower region of the stomach,§ and opium rubbed over the stomach and chest.

Young children should be laid with their heads and shoulders raised, and should be cautiously watched, that, when the cough comes on, they may be held up, so as to stand upon their feet, bending a little forward to guard against suffocation.

The feet should be frequently bathed in lukewarm water; and a Burgundy-pitch plaster kept constantly between the shoulders. But when the disease proves very violent, it will be necessary, instead of it, to apply a blistering-plaster, and to keep the part open for some time with issue-ointment.

When the disease is protracted, and the patient is free from a fever, the Peruvian bark, and other bitters and antispasmodics, are the most proper medicines. The bark may either be taken in substance, or in a decoction or infusion, as is most agreeable. For a child, ten, fifteen, or twenty grains, according to the age of the patient, may be given three or four times a-day. For an adult half a drachm or two scruples will be proper. Some give the extract of the bark with cantharides; but to manage this requires a considerable attention. It is more safe to give a few grains of castor along with the bark. A child of six or seven years of age may take seven or eight grains of castor, with fifteen grains of powdered bark, for a dose. This may be made into a mixture, with two or three ounces of any simple distilled water, and a little syrup, and taken three or four times a-day.

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two or three times a-day. For a child of two years, the dose is half a grain; and the quantity must be thus increased in proportion to the age of the patient.

* Take Extract of Hemlock, 1 to 2 grs.
Decoction of Bark, 1 oz.
Tincture of Opium, 3 drps.
Make a draught; to be taken three times a-day.

† Take Ipecacuanha Wine, 5 drps.
Carbonate of Soda, 2 grs.
Tincture of Opium, 1 gr.
Simple Syrup, 1 drm.
Make a draught; to be taken as above.

‡ Take Superacetate of lead, 2 to 5 grs.
Rose Water, 2 ounces.
Syrup of Violets, 2 drachms
Make a mixture; of which let a tea-spoonful be taken every four or five hours.

§ Take Tartarized Antimony, 1 scruple.
Water, 2 ounces.
Tincture of Spanish Flies, ½ ounce.
Make an embrocation.

CHAP. XXII.

INFLAMMATION OF THE STOMACH. *(Gastritis.)*

This disease is divided into two species, viz. the phlegmonous and erysipelatous; but it is the former that is here alluded to, the latter arising, for the most part, towards the termination of other diseases, marking the certain approach to dissolution, and being unaccompanied with any marks of general inflammation, or by any burning pain in the stomach.

Inflammations of the stomach are dangerous, and require the most speedy assistance, as they frequently end in a suppuration, and sometimes in a mortification, which is certain death.

Causes.—Phlegmonous Inflammation of the stomach may proceed from any of the causes which produce an inflammatory fever; as cold liquor drank while the body is warm, obstructed perspiration, or the sudden striking-in of any eruption. It may likewise proceed from the acrimony of the bile, or from acrid and stimulating substances taken into the stomach; as strong vomits or purges, corrosive poisons, and such like. When the gout has been repelled from the extremities, either by cold or improper applications, it often occasions an inflammation of the stomach. Hard or indigestible substances taken into the stomach, as bones, the stones of fruits, &c. may likewise have that effect.

Symptoms.—It is attended with a fixed pain and burning heat in the stomach; great restlessness and anxiety; a small, quick, and hard pulse; vomiting, or at least a nausea and sickness; excessive thirst; coldness of the extremities; difficulty of breathing; cold clammy sweats; and sometimes convulsions and fainting fits. The stomach is swelled, and often feels hard to the touch. One of the most certain signs of this disease is the sense of pain, which the patient feels upon taking any kind of food or drink, especially if it be either too hot or too cold.

When the patient vomits every thing he eats or drinks, is extremely restless, has a hiccup, with an intermitting pulse, and frequent fainting fits, the danger is very great.

Regimen.—All acrimonious, heating, and irritating food and drink are carefully to be avoided. The weakness of the patient may deceive the by-standers, and induce them to give him wines, spirits, or other cordials; but these never fail to increase the disease, and often occasion sudden death. The inclination to vomit may likewise impose on the attendants, and make them think a vomit necessary; but that too is almost certain death.

The food must be light, thin, cool, and easy of digestion. It must be given in small quantities, and should neither be quite cold nor too hot. Thin gruel made of barley or oatmeal, light toasted bread dissolved in boiling water, or very weak chicken broth, are the most proper. The drink should be clear whey, barley-water,

water in which toasted bread has been boiled, or decoctions of emollient vegetables, as liquorice, and marshmallow roots, sarsaparilla, or the like.

MEDICINE.—Bleeding in this disease, as in all other visceral inflammations, is the sheet anchor, and the only thing that can be depended on. When the disease proves obstinate, it will often be proper to repeat this operation several times; nor must the low state of the pulse deter us from doing so. The pulse, indeed, generally rises upon bleeding, and as long as that is the case, the operation is safe.

Frequent fomentations with lukewarm water, or a decoction of emollient vegetables, and leeching, are likewise beneficial. Flannel cloths dipped in these must be applied to the region of the stomach, and removed as they grow cool. They must neither be applied too warm, nor be suffered to continue till they become quite cold, as either of these extremes would aggravate the disease.

A number of leeches, not less than twenty, may be applied, and the warm fomentations continued to promote the bleeding when they fall off.

The feet and legs ought likewise to be frequently bathed in lukewarm water, and warm bricks or poultices may be applied to the soles of the feet. The warm bath, if it can be conveniently used, will be of great service.

In this and all other inflammations of the bowels, a large blister, applied over the part affected, is one of our best remedies.

The only internal medicines which we shall venture to recommend in this disease, are mild clysters. These may be made of warm water, or thin water-gruel; and if the patient be costive, a little sweet oil, honey, or manna may be added. Clysters answer the purpose of an internal fomentation, while they keep the body open, and at the same time nourish the patient, who is often in this disease unable to retain any food upon his stomach. For these reasons they must not be neglected, as the patient's life may depend on them.

INFLAMMATION OF THE INTESTINES. *(Enteritis.)*

This, like inflammation of the stomach, is of two species, viz. the phlegmonous and erysipelatous; the first only is here noticed, as the latter is invariably symptomatic of some other disease, and is one of the most painful and dangerous diseases to which mankind are liable. It generally proceeds from the same causes as the inflammation of the stomach; to which may be added, costiveness, worms, eating unripe fruits or great quantities of nuts, drinking hard windy malt liquors, as stale bottled beer or ale, sour wine, cider, &c. It may likewise be occasioned by a rupture, by scirrhous tumours of the intestines, or by their opposite sides growing together.

The inflammation of the intestines is denominated *Iliac passion*, *Enteritis*, *&c.* according to the name of the parts affected. The treatment, however, is nearly the same, whatever part of the intestinal canal be the seat of the disease; we shall therefore omit these distinctions, lest they should perplex the reader.

The *symptoms* here are nearly the same as in the foregoing disease, only the pain, if possible, is more acute, and is situated lower in the abdomen. The vomiting is likewise more violent, and sometimes even the excrements, together with the clysters, are discharged by the mouth. The patient is continually belching up wind, and has often an obstruction of his urine.

While the pain shifts, and the vomiting only returns at certain intervals, and while the clysters pass downwards, there is ground for hope; but when the clysters and *fæces* are vomited, and the patient is exceedingly weak, with a low fluttering pulse, a pale countenance, and a disagreeable or stinking breath, there is great reason to fear the consequences will prove fatal. Clammy sweats, black fœtid stools, with a small intermitting pulse, and a total cessation of pain, are the signs of a mortification already begun, and of approaching death.

REGIMEN.—The regimen in this disease is in general the same as in an inflammation of the stomach. The patient must be kept quiet, avoiding cold, and all violent passions of the mind. His food ought to be very light, and given in small quantities; his drink weak and diluting; as clear whey, barley-water, and such like.

MEDICINE.—Bleeding in this, as well as in the inflammation of the stomach, is of the greatest importance. It should be performed as soon as the symptoms appear, and must be repeated according to the strength of the patient, and the violence of the disease.

Fomentations, laxative clysters, and leeches, are by no means to be omitted. The patient's feet and legs should frequently be bathed in warm water; and cloths dipped in it applied to his belly. Bladders filled with warm water may likewise be applied to the region of the navel, and warm bricks, or bottles filled with warm water, to the soles of the feet. The clysters may be made of barley-water, or thin gruel with salt, and softened with sweet oil or fresh butter. These may be administered every two or three hours, or oftener, if the patient continues costive.

A blistering plaster is here likewise to be applied immediately over the part where the most violent pain is.

This not only relieves the pain of the bowels, but even clysters* and purgative medicines,† which before had no effect, will operate when the blister begins to rise.

If the disease does not yield to clysters and fomentations, recourse must be had to purgatives; but as these, by irritating the bowels, often increase their contraction, and by that means frustrate their own intention, it will be necessary sometimes to join them with opiates, which, by allaying the pain, and relaxing

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* Take Infusion of Senna,	10 ounces.	Tinct. of Jalap,	½ drachm.
Sulphate of Soda.	1 ounce.	Make a draught.	
Castor Oil,	½ ounce.	*or*	
Make a clyster.		Take Infusion of Sennæ,	1½ ounce.
		Tincture of the same,	1 drachm.
† Take Castor Oil,	1 ounce.	Epsom Salts,	3 drachms.
Mint Water,	½ ounce.	Make a draught.	

the spasmodic contractions of the guts, greatly assist the operation of purgatives in this case.

Acids have often a very happy effect in staying the vomiting, and appeasing the other violent symptoms of this disease; it will therefore be of use to sharpen the patient's drink, with cream of tartar, juice of lemon, or, when these cannot be obtained, with vinegar.

But it often happens that no liquid whatever will stay on the stomach. In this case the patient must take purging pills. I have generally found the following answer very well:—Take jalap in powder, and vitriolated tartar, of each half a drachm, opium one grain, Castile soap as much as will make the mass fit for pills. These must be taken at one dose, and if they do not operate in a few hours, the dose may be repeated.

If a stool cannot be procured by any of the above means, it will be necessary to immerse the patient in warm water up to the breast. I have often seen this succeed when other means had been tried in vain. The patient must continue in the water as long as he can easily bear it without fainting, and if one immersion has not the desired effect, it may be repeated as soon as the patient's strength and spirits are recruited. It is more safe for him to go frequently into the bath than to continue too long at a time; and it is often necessary to repeat it several times before it has the desired effect.

It has sometimes happened, after all other means of procuring a stool has been tried to no purpose, that this was brought about by immersing the patient's lower extremities in cold water, or making him walk upon a wet pavement, and dashing his legs and thighs with the cold water. This method, when others fail, at least merits a trial. It is, indeed, attended with some danger; but a doubtful remedy is better than none.

In desperate cases it is common to give quicksilver. This may be given to the quantity of several ounces, or even a pound, but should not exceed that.* When there is reason to suspect a mortification of the intestines, this medicine ought not to be tried. In that case it cannot cure the patient, and will only hasten his death. But when the obstruction is occasioned by any cause that can be removed by force, quicksilver is not only a proper medicine, but the best that can be administered, as it is the fittest body we know for making its way through the intestinal canal.

If the disease proceeds from a rupture, the patient must be laid with his head very low, and the intestines returned by gentle pressure with the hand. If this, with fomentations and clysters, should not succeed, recourse must be had to a surgical operation, which may give the patient relief.

Such as would avoid this excruciating and dangerous disease, must take care never to be too long without a stool. Some who have died of it, have had several pounds of hard dry *fæces* taken out of their intestines. They should likewise beware of eating too

* When quicksilver is given in too large quantities, it defeats its own intention, as it drags down the bottom of the stomach, which prevents its getting over the Pylorus. In this case the patient should be suspended by the heels, in order that the quicksilver may be discharged by his mouth.

freely of sour or unripe fruits, or drinking stale windy liquors, &c. I have known it brought on by living too much on baked fruits, which are seldom good. It likewise proceeds frequently from cold caught by wet clothes, &c. but especially from wet feet.

Colic. *(Colica.)*

The colic has a great resemblance to the two preceding diseases, both in its symptoms and method of cure. It is generally attended with costiveness and acute pain of the bowels; and requires diluting diet, evacuations, fomentations, &c.

Colics are variously denominated according to their causes, as the *flatulent*, the *bilious*, the *hysteric*, the *nervous*, &c. And as each of these requires a particular method of treatment, we shall point out their most general symptoms, with the means to be used for their relief.

The *flatulent*, or wind colic, is generally occasioned by an indiscreet use of unripe fruits, meats of hard digestion, windy vegetables, fermenting liquors, and such like. It may likewise proceed from an obstructed perspiration, or catching cold. Delicate people, whose digestive powers are weak, are most liable to this kind of colic.

The flatulent colic may either affect the stomach or intestines. It is attended with a painful stretching of the affected part. The patient feels a rumbling in his bowels, and is generally relieved by a discharge of wind, either upwards or downwards. The pain is seldom confined to any particular part, as the vapour wanders from one division of the bowels to another, till it finds a vent.

When the disease proceeds from windy liquor, green fruits, sour herbs, or the like, the best medicine on the first appearance of the symptoms is a dram of brandy, gin, or any good spirits, or aromatic cordials* combined with opiates. The patient should likewise sit with his feet upon a warm hearth-stone, or apply warm bricks to them; and warm clothes may be applied to his stomach and bowels. If costiveness prevail, some gentle laxative may be given.

This is the only colic in which ardent spirits, spiceries, or any thing of a hot nature may be ventured upon. Nor indeed are they to be used here, unless at the very beginning, before any symptoms of inflammation appear. We have reason to believe that the colic occasioned by wind or flatulent food might always be cured by spirits and warm liquors, if they were taken immediately upon perceiving the first uneasiness; but when the pain has continued for a considerable time, and there is reason to fear an inflammation of the bowels is already begun, all hot things are to be avoided as poison, and the patient is to be treated in the same manner as for the inflammation of the intestines.

Several kinds of food, as honey, eggs, &c. occasion colics in some particular constitutions. I have generally found the best method of cure for these was to drink plentifully of small diluting liquors, as water-gruel, small posset, toast and water, &c.

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* Take Mint Water, 1 oz.
Spirit of Caraway, ½ oz.
Compound Tincture of Lavender, 1 drm.
Tincture of Opium, 20 drps.
Make a draught.

Colics which proceed from excess and indigestion, generally cure themselves by occasioning vomiting or purging. These discharges are by no means to be stopped, but promoted by drinking plentifully of warm water, or weak posset. When their violence is over, the patient may take a dose of rhubarb, or any other gentle purge, to carry off the dregs of his debauch.

Colics which are occasioned by wet feet, or catching cold, may generally be removed at the beginning by bathing the feet and legs in warm water, and drinking such warm diluting liquors as will promote the perspiration, as weak wine-whey, or water-gruel with a small quantity of spirits in it.

Those flatulent colics, which prevail so much among country-people, might generally be prevented, were they careful to change their clothes when they get wet. They ought likewise to take a dram, or to drink some warm liquor after eating any kind of green trash. We do not mean to recommend the practice of dram-drinking, but in this case ardent spirits prove a real medicine, and indeed the best that can be administered. A glass of good pepper-mint-water will have nearly the same effect as a glass of brandy, and in some cases is rather to be preferred.

The *bilious* colic is attended with very acute pains about the region of the navel. The patient complains of great thirst, and is generally costive. He vomits a hot, bitter, and yellow-coloured bile, which, being discharged, seems to afford some relief, but is quickly followed by the same violent pain as before. As the distemper advances, the propensity to vomit sometimes increases so as to become almost continual, and the proper motion of the intestines is so far perverted, that there are all the symptoms of an impending iliac passion.

If the patient be young and strong, and the pulse full and frequent, it will be proper to bleed, after which clysters may be administered. Clear whey or gruel, sharpened with the juice of lemon, or cream of tartar, must be drunk freely. Small chicken-broth, with a little manna dissolved in it, or a slight decoction of tamarinds, is likewise very proper, or any other thin, acid, opening liquor.

Besides bleeding and plentiful dilution, it will be necessary to foment the belly with cloths dipped in warm water, and if this should not succeed, the patient must be immersed up to the breast in warm water.

In the bilious colic, the vomiting is often very difficult to restrain. When this happens, the patient may drink a decoction of toasted bread, or an infusion of garden-mint in boiling water. Should these not have the desired effect, the saline draught, with a few drops of laudanum in it, may be given, and repeated according to the urgency of the symptoms. A small quantity of Venice treacle may be spread in form of a cataplasm, and applied to the pit of the stomach. Clysters, with a proper quantity of Venice treacle or liquid laudanum in them, may likewise be frequently administered.

The *hysteric* colic bears a great resemblance to the bilious. It is attended with acute pains about the region of the stomach, vomiting, &c. &c. What the patient vomits in this case is commonly of a greenish colour. There is a great sinking of the spirits, with

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rubbing the spine, in case any tingling, or other symptoms of the palsy are felt. When the tar cannot be obtained, the back may be rubbed with strong spirits, or a little oil of nutmeg, or of rosemary.

If the patient remain weak and languid after this disease, he must take exercise on horseback, and use an infusion of the Peruvian bark in wine. When the disease ends in palsy, the Bath waters are found to be extremely proper.

To avoid this kind of colic, people must shun all sour fruits, acid and austere liquors, &c. Those who work in lead ought never to go to their business fasting, and their food should be oily or fat. They may take a glass of salad oil, with a little brandy or rum, every morning, but should never take spirits alone. Liquid aliment is best for them; as fat broths, &c., but low living is bad. They should frequently go a little out of the tainted air; and should never suffer themselves to be costive. In the West Indies, and on the coast of Guinea, it has been found of great use, for preventing this colic, to wear a piece of flannel round the waist, and to drink an infusion of ginger by way of tea.

Sundry other kinds of this disease might be mentioned, but too many distinctions would tend only to perplex the reader. Those already mentioned are the most material, and should, indeed, be attended to, as their treatment is very different. But even persons who are not in a condition to distinguish very accurately in these matters, may nevertheless be of great service to patients in colics of every kind, by only observing the following general rules, viz. To bathe the feet and legs in warm water; to apply bladders filled with warm water, or clothes wrung out of it, to the stomach and bowels; to make the patient drink freely of diluting mucilaginous liquors; and to give him an emollient clyster every two or three hours. Should these not succeed, the patient ought to be immersed in warm water.

Inflammation of the Kidneys. *(Nephritis.)*

Properly considered, inflammation of the kidneys appears to be of two kinds; one arising from the general causes of inflammation, and seated principally in the external membrane of the kidneys, the other occasioned by the stimulus of the gravel or stone in the pelvis or cavity of it, and the inflammation occupying the interior parts. It is the first that is here noticed; the other will be referred to under the head of Stone and Gravel.

Causes.—This disease may proceed from any of those causes which produce an inflammatory fever. It may likewise be occasioned by wounds or bruises of the kidneys; small stones or gravel lodging within them by strong diuretic medicines; as spirits of turpentine, tincture of cantharides, &c. Violent motion, as hard riding or walking, especially in hot weather, or whatever drives the blood too forcibly into the kidneys, may occasion this malady. It may likewise proceed from lying too soft, too much on the back, involuntary contractions, or spasms, in the urinary vessels, &c.

Symptoms.—There is a sharp pain about the region of the kidneys, with some degree of fever, and a stupor or dull pain in the thigh of the affected side. The urine is at first clear, and afterwards of a reddish colour; but in the worst kind of the disease it generally continues pale, is passed with difficulty, and commonly in small quantities at a time. The patient feels great uneasiness when he endeavours to walk or sit upright. He lies with most ease on the affected side, and has generally a nausea or vomiting, resembling that which happens in the colic.

This disease, however, may be distinguished from the colic by the pain being seated farther back, and by the difficulty of passing urine, with which it is constantly attended.

Regimen.—Every thing of a heating or stimulating nature is to be avoided. The food must be thin and light; as panado, small broths, with mild vegetables, and the like. Emollient and thin liquors must be plentifully drunk; as clear whey, or balm-tea sweetened with honey, decoctions of marshmallow roots, with barley and liquorice, &c. The patient, notwithstanding the vomiting, must constantly keep sipping small quantities of these or other diluting liquors. Nothing so safely and certainly abates the inflammation, and expels the obstructing cause, as copious dilution. The patient must be kept easy, quiet, and free from cold, as long as any symptoms of inflammation remain.

Medicine.—Bleeding is generally necessary, especially at the beginning. Ten or twelve ounces may be let from the arm or foot with a lancet; and if the pain and inflammation continue, the operation may be repeated in twenty-four hours, especially if the patient be of a full habit. Leeches may likewise be applied to the seat of pain, and to the hæmorrhoidal veins, as a discharge from these will greatly relieve the patient.

Cloths dipped in warm water, or bladders filled with it, must be applied as near as possible to the part affected, and renewed as they grow cool. If the bladders be filled with a decoction of mallows and camomile flowers, to which a little saffron is added, and mixed with about a third part of new milk, it will be still more beneficial. Oleaginous cathartics of castor oil,* manna, or oil of almonds, with emollient clysters, ought frequently to be administered; and if the latter do not open the body, a little salt and honey, or manna, may be added to them.

The same course is to be followed where gravel or a stone is lodged in the kidney; but when the gravel or stone is separated from the kidney, and lodges in the ureter,† it will be proper, be-

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* Take Castor Oil, 1 ounce.
Mucilage of Gum Arabic,
Fennel Water, of each, ½ ounce.
Tincture of Jalap, ½ drachm.
Make an opening draught.

or

Take Manna, ½ ounce.
Tartrate of Potash, 3 drachms.
Warm Water, 1½ ounce.
Tincture of Senna, 1 drachm.
Make a draught.

† The Ureters are two long and slender canals, one on each side, which carry the urine from the basin of the kidneys to the bladder. They are sometimes obstructed by small pieces of gravel falling down from the kidneys, and lodging in them.

sides the fomentations, to rub the small of the back with sweet oil, and to give gentle diuretics; as juniper-water sweetened with the syrup of marsh-mallows: a tea-spoonful of the sweet spirits of nitre, with a few drops of laudanum, may now and then be put in a cup of the patient's drink; or a decoction of the dried leaves of the peach tree. He ought likewise to take exercise on horseback, or in a carriage, if he be able to bear it.

When the disease is protracted beyond the seventh or eighth day, and the patient complains of a stupor and heaviness of the part, has frequent returns of chilliness, shivering, &c., there is reason to suspect that matter is forming in the kidney, and that an abscess will ensue.

When matter in the urine shows that an ulcer is already formed in the kidney, the patient must be careful to abstain from all acrid, sour, and salted provisions; and to live chiefly upon mild mucilaginous herbs and fruits, together with the broth of young animals, made with barley and common pot-herbs, &c. His drink may be whey, and buttermilk that is not sour. The latter is by some reckoned a specific remedy in ulcers of the kidneys. To answer this character, however, it must be drunk for a considerable time. Chalybeate waters have likewise been found beneficial in this disease. This medicine is easily obtained, as it is found in every part of Great Britain. It must likewise be used for a considerable time, in order to produce any salutary effect.

Those who are liable to frequent returns of inflammation, or obstructions of the kidneys, must abstain from wines, especially such as abound with tartar; and their food ought to be light and easy of digestion. They should use moderate exercise, not lie too hot, nor too much on their back, and avoid costiveness.

Inflammation of the Bladder. *(Cystitis.)*

The inflammation of the bladder proceeds, in a great measure, from the same causes as that of the kidneys. It is known by an acute pain and tension towards the bottom of the belly, and difficulty of passing urine, with some degree of fever, a constant inclination to go to stool, and a perpetual desire to make water, &c.

This disease must be treated on the same principle, as the one immediately preceding. The diet must be light and thin, and the drink of a cooling nature. Bleeding is very proper at the beginning, and in robust constitutions it will often be necessary to repeat it. The lower part of the belly should be fomented with warm water, or a decoction of mild vegetables; and emollient clysters ought frequently to be administered, &c.

The patient should abstain from every thing that is of a hot, acrid, and stimulating quality; and should live entirely upon small broths, gruels, or mild vegetables.

A stoppage of urine may proceed from other causes besides an inflammation of the bladder; as a swelling of the hæmorrhoidal veins; hardened *fæces* lodged in the *rectum;* a stone in the bladder; excrescences in the urinary passages, a palsy of the bladder, hysteric affections, &c. Each of these requires a particular treatment which does not fall under our present consideration. We

shall only observe, that in all of them mild and gentle applications are the safest, as strong diuretic medicines, or things of an irritating nature, generally increase the danger. I have known some persons kill themselves by introducing probes into the urinary passages, to remove, as they thought, somewhat that obstructed the discharge of urine, and others bring on a violent inflammation of the bladder, by using strong diuretics, as oil of turpentine, &c. for that purpose.

Inflammation of the Liver.

The liver is less subject to inflammation than most of the other viscera, as in it the circulation is slower; but when an inflammation does happen, it is with difficulty removed, and often ends in suppuration or scirrhus.

Causes.—Besides the common causes of inflammation, we may here reckon the following, viz. excessive fatness, a scirrhus of the liver itself, violent shocks, from strong vomits when the liver was before unsound, an adust or arabiliarian state of the blood, any thing that suddenly cools the liver after it has been greatly heated, stones obstructing the course of the bile, drinking strong wines and spirituous liquors, using hot spicy aliment, obstinate hypochondriacal affections, long-continued intermittent and remittent fevers, contusions, blows, and in five cases out of six the partial application of cold or wet when the body is heated or over fatigued with exercise, &c.

Symptoms.—This disease is known by a painful tension of the right side under the false ribs, attended with some degree of fever, a sense of weight, or fulness of the part, difficulty of breathing, loathing of food, great thirst, with a pale or yellowish colour of the skin and eyes.

The *symptoms* here are various, according to the degree of inflammation, and likewise according to the particular part of the liver where the inflammation happens. Sometimes the pain is so inconsiderable, that an inflammation is not so much as suspected; but when it happens in the upper or convex part of the liver, the pain is more acute, the pulse quicker, and the patient is often troubled with a dry cough, a hiccup, and a pain extending to the shoulder, with difficulty of lying on the left side, &c.

This disease may be distinguished from the pleurisy, by the pain being less violent, seated under the false ribs, the pulse not so hard, and by the difficulty of lying on the left side. It may be distinguished from the hysteric and hypochondriac disorders by the degree of fever with which it is always attended.

In warm climates* this viscus is more apt to be affected with in-

* Inflammation of the liver, and the diseases consequent thereupon, are indeed affections more frequently to be met with in warm climates than in cold ones, particularly in the East and West Indies, where few Europeans can reside for any length of time without being attacked by them. The liver in warm climates seems to be the seat of disease, nearly in the same proportion that the lungs are in Great Britain. Both acute and chronic hepatitis are frequently met with in persons who come to Europe from the East and West Indies; and in those who have been affected when in those climates, they are very apt to recur by the application of causes which would be likely to have a different effect upon any one else. Ed.

flammation than any other part of the body, from, in all probability, the increased secretion of bile which takes place when the blood is thrown on the internal parts by an exposure to cold; or from the bile becoming acrid, and thereby exciting an irritation of the part.

This disease, if properly treated, is seldom mortal. A constant hiccuping, violent fever, and excessive thirst, are bad symptoms. If it ends in a suppuration, and the matter cannot be discharged outwardly, the danger is great. When a scirrhus of the liver ensues, the patient, if he observes a proper regimen, may nevertheless live a number of years tolerably easy; but if he indulge in animal food and strong liquors, or take medicines of an acrid or irritating nature, the scirrhus will be converted into a cancer, which must infallibly prove fatal.

Regimen.—The same regimen is to be observed in this as in other inflammatory disorders. All hot things are to be carefully avoided, and cool diluting liquors, as whey, barley water, &c. drank freely. The food must be light and thin, and the body, as well as the mind, kept easy and quiet.

Medicine.—Bleeding from a large orifice is proper at the beginning of this disease, and it will often be necessary, even though the pulse should not feel hard, to repeat it. Topical bleeding by means of leeches applied over the seat of the pain, &c. All violent purgatives are to be avoided; the body, however, must be kept gently open, and immediately after venesection, a proper dose of the submuriate of mercury and colocynth may be directed; or the bowels may be kept open with the neutral salts* or jalap, giving the submuriate of mercury from time to time.† A decoction of tamarinds, with a little honey or manna, will answer this purpose very well. The side affected must be fomented in the manner directed in the foregoing diseases. Mild laxative clysters should be frequently administered; and, if the pain should notwithstanding continue violent, a blistering plaster may be applied over the part affected; or rather a plaster made of gum ammoniac and vinegar of squills.

Medicines which promote the secretion of urine have a very good effect here. For this purpose half a drachm of purified nitre, or a teaspoonful of the sweet spirits of nitre, may be taken in a cup of the patient's drink three or four times a-day.

When there is an inclination to sweat, it ought to be promoted, but not by warm sudorifics. The only thing to be used for that purpose is plenty of diluting liquor drank about blood-warm. Indeed the patient in this case, as well as in all other topical inflammations, ought to drink nothing that is colder than this medium.

If the stools should be loose, and even streaked with blood, no means must be used to stop them, unless they be so frequent as to

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* Take Infusion of Senna, 1½ oz.
Epsom Salts, 3 drs.
Tincture of Jalap,
Syrup of Buckthorn, of each 1 dr.
Make a draught.

† Take Submuriate of Mercury, 3 grs.
Extract of Colocynth, 5 grs.
Make a pill for a dose.

weaken the patient. Loose stools often prove critical, and carry off the disease.

Mercurial friction, should the disease resist the ordinary means, may be employed, in the proportion of a drachm of the blue ointment rubbed over and about the affected part every night until a slight degree of salivation is excited, or rather until some obvious effect in the constitution is produced; and this may be commenced at the end of the fourth or fifth day of the disease. Should the friction in this part be attended with any inconvenience, it may be applied to the groins, taking care, however, not to carry it much beyond the point bordering on salivation. If it be desirable to produce some speedy effect of the mercury, it may also be internally employed, combined with small doses of opium or antimony in the form of pills.* If the disease yields readily, a short course of mercury will be sufficient; but otherwise its use must be continued for, perhaps, five or six weeks. This remedy has latterly been very extensively and beneficially employed; although in all cases it may not be necessary; particularly at the commencement of acute inflammation of the liver, which, like other visceral inflammations in Great Britain, readily yields to the ordinary plan of depletion.

If an abscess or imposthume is formed in the liver, methods should be tried to make it break and discharge itself outwardly, as fomentations, the application of poultices, ripening cataplasms, &c. Sometimes, indeed, the matter of an abscess comes away in the urine, and sometimes it is discharged by stool; but these are efforts of nature which no means can promote. When the abscess bursts into the cavity of the *abdomen* at large, death must ensue; nor will the event be more favourable when the abscess is opened by an incision, unless in cases where the liver adheres to the *peritonæum*, so as to form a bag for the matter, and prevent it from falling into the cavity of the *abdomen;* in which case opening the abscess by a sufficiently large incision will probably save the patient's life.†

If the disorder, in spite of all endeavours to the contrary, should end in a scirrhus, the patient must be careful to regulate his diet, &c. in such a manner as not to aggravate the disease. He must not indulge in flesh, fish, strong liquors, or any highly-seasoned or salted provisions; but should, for the most part, live on mild vegetables, as fruits and roots, taking gentle exercise, and drinking whey, barley-water, or butter-milk. If he takes any thing stronger, it should be fine mild ale, which is less heating than wines or spirits.

If the fomentations do not remove or abate the pain, recourse must be had to blisters, and the warm bath, in which the patient is to continue as long as his strength will permit. The want of a

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* Take Calomel, 1 drm.
Purified Opium, 1 scr.
Tartarized Antimony, 5 grs.
Simple Syrup, enough to form the mass; which is to be divided into 30 pills; one to be taken night and morning.

or

Take Submuriate of Mercury, 1 drm.
Purified Opium,
Camphor, of each, ½ drm.
Simple Syrup, enough to form the mass; to be made into 30 equal pills. Dose, one or two.

† I know a gentleman who had several abscesses of the liver opened, and is now a strong and healthy man, though above eighty years of age.

proper warm bath may be supplied by some of the portable baths, filled with warm water. The most convenient of these contrivances, which are to be had at the tin-shops, is commonly called the *slipper bath*, from its resembling a slipper in form. A cask, or a common tub, may be used for the purpose upon an emergency, though not so commodious.

When hepatitis degenerates into a chronic state, the common mode of cure is by mercury, which is the most effectual practice. It should be given in small doses and slowly, so as just to keep up a brassy taste in the mouth for a considerable time, as it promotes the secretion of bile, and excites the extreme vessels on the surface; and to increase the latter effect, it has been found useful to combine it with small proportions of antimonial powder, as well as opium. To keep up the regular peristaltic motion, which is the next salutary process, and excite the mouths of the excretory ducts of the liver, one or two of the pills prescribed below may be taken occasionally at bed time.*

General bleeding is never necessary in chronic inflammation of the liver; but in a few instances topical bleeding by means of leeches or scarifications (cupping) may be serviceable. When there is much local uneasiness, blisters may be advantageously applied. Inflammations of the stomach and bowels are usually attended with obstinate costiveness, for the removal of which no small skill and perseverance are often necessary. Sometimes a very mild medicine will operate, where a powerful one has had no effect. I have known a few spoonsful of castor oil procure a stool, after the failure of strong drastic purges. The means, therefore, should be varied, not hastily discontinued. Where one thing does not succeed, another may be happily employed; and instances are not wanting of the efficacy even of external applications, when the best internal remedies have proved unsuccessful.

CHAP. XXIII.

CHOLERA MORBUS, AND OTHER EXCESSIVE DISCHARGES FROM THE STOMACH AND BOWELS.

THE *cholera morbus* is a violent purging and vomiting of bilious matter, attended with gripes, sickness, and a constant desire to go to stool. It comes on suddenly, and is most common in autumn. There is hardly any disease that kills more quickly than this, when proper means are not used in due time for removing it.

In warm climates it is met with at all seasons of the year, and its occurrences are very frequent; but in England and other cold climates, it is apt to prevail most during the autumnal months, when there is excessive heat, or sudden transitions from heat to cold; and the violence of the disease has usually been observed to

*Take Compound Extract of Bitter Apple, 1 drm.
Calomel, 1 scr.
Emetic Tartar, 4 grs
Oil of Caraway, 5 drps.
Simple Syrup, enough.
Make 30 pills; to be taken as directed above.

be greater in proportion to the intenseness of the heat,—circumstances which induce the belief that cholera morbus is the effect of a warm atmosphere producing some change in the state of the bile, which may consist either in the matter of the bile being rendered more acrid, or its secretion being preternaturally increased. In some instances, the disease has been observed to proceed from an obstructed perspiration, and food that passes readily into the acetous fermentation, &c. though these causes might not give rise to it without the predisposition acquired by preceding great heat, succeeded by sudden transitions of cold, particularly in the evenings.

Causes.—It is occasioned by a redundancy and putrid acrimony of the bile; food that easily turns rancid or sour on the stomach; as butter, bacon, sweetmeats, cucumbers, melons, cherries, and other cold, unripe fruits.* It is sometimes the effect of strong acrid purges or vomits, or of poisonous substances taken into the stomach. It may likewise proceed from violent passions or affections of the mind; as fear, anger, &c.

Symptoms.—It is generally preceded by a *cardialgia*, or heartburn, sour belchings, and flatulencies, with pain of the stomach and intestines. To these succeed nausea, excessive vomiting, and purging of green, yellow, or blackish-coloured bile, with a distention of the stomach, and violent griping pains. There is likewise a great thirst, with a very quick and unequal pulse, and often a fixed acute pain about the region of the navel. As the disease advances, the pulse often sinks so low as to become quite imperceptible, the extremities grow cold or cramped, and are often covered with a clammy sweat, the urine is obstructed, and there is a palpitation of the heart. Violent hiccuping, fainting, and convulsions, are the signs of approaching death.

Medicine.—At the beginning of this disease, the efforts of Nature to expel the offending cause should be assisted, by promoting the purging and vomiting. For this purpose the patient must drink freely of diluting liquors; as whey, butter-milk, warm water, thin water-gruel, barley-water, linseed tea, or, what is perhaps preferable to any of them, very weak chicken broth. This should not only be drunk plentifully to promote the vomiting, but a clyster of it given every hour in order to promote the purging. In addition to these means, flannel cloths wrung out in a warm decoction of poppy-heads slightly bruised, with the addition of about one fourth of the spirit of camphor, may be applied to the region of the stomach, renewing them as often as they become cold; or opium in the form of an external embrocation.†

After these evacuations have been continued for some time, a decoction of toasted oat-bread may be drunk to stop the vomiting.

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* I have been twice brought to the gates of death by this disease, and both times it was occasioned by eating rancid bacon.

† Take Spirit of Camphor, ½ oz. Tincture of Opium, 1 oz. Make an embrocation, to be frequently rubbed over the seat of the stomach.

The bread should be toasted till it is of a brown colour, and afterwards boiled in spring water. If oat-bread cannot be had, wheat-bread, or oat-meal well toasted, may be used in its stead. If this does not put a stop to the vomiting, two table-spoonsful of the saline julep, with ten drops of laudanum, may be taken every hour till it ceases.

The vomiting and purging, however, ought never to be stopped too soon. As long as these discharges do not weaken the patient, they are salutary, and may be allowed to go on, or rather ought to be promoted. But when the patient is weakened by the evacuations, which may be known from the sinking of his pulse, &c. recourse must immediately be had to opiates, as recommended above; to which may be added strong wines, with spirituous cinnamon-waters, and other generous cordials; or large doses of diluted sulphuric acid, which is said to abate the irritation of the stomach more readily than even opium. Warm negus, or strong wine-whey, will likewise be necessary to support the patient's spirits, and promote the perspiration. His legs should be bathed in warm water, and afterwards rubbed with flannel cloths, or wrapped in warm blankets, and warm bricks applied to the soles of his feet.

The application of a blister to the stomach will sometimes put a stop to the vomiting. In very severe cases, the external application of nitric acid has been suggested, as a counter-irritant, as a considerable time may elapse before the blister begins to irritate, a practice that has been adopted in that aggravated form of the disease which has lately been developed in Hindostan.

When the violence of the disease is over, to prevent a relapse, it will be necessary for some time to continue the use of small doses of laudanum. Ten or twelve drops may be taken in a glass of wine, at least twice a-day for eight or ten days. The patient's food ought to be nourishing, but taken in small quantities, and he should use moderate exercise. As the stomach and intestines are generally much weakened, an infusion of the bark, or other bitter* in small wine, sharpened with the elixir of vitriol, may be drunk for some time.

Though physicians are seldom called in due time in this disease, they ought not to despair of relieving the patient even in the most desperate circumstances. Of this I lately saw a very striking proof in an old man and his son, who had been both seized with it about the middle of the night. I did not see them till next morning, when they had much more the appearance of dead than of living men. No pulse could be felt; the extremities were cold and rigid, the countenance was ghastly, and the strength almost quite exhausted. Yet from this deplorable condition they were both recovered by the use of opiates† and cordial medicines.

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* Take Tincture of Gentian, 1 drm.
Infusion of Cascarilla, 1½ oz.
Make a draught, to be taken three times a-day.

or

Take Tincture of Columba, 1 drm.
Mint Water, 1½ oz.
Make a draught, to be taken three times a-day.

† In the Epidemic Cholera of India, the cases which may with most confidence be trusted to opium, are those in which the primary symptoms are seated, apparently in the stomach, as indicated by vomiting and spasmodic pain in that region; and in the

I have frequently had occasion to see this disease, and have sometimes felt it. Yet I never met with an instance, in my own practice, where it proved fatal, though we are told this often happens. Whether so lamentable an issue be owing to improper treatment, or to the extreme weakness of the patient's bowels, I cannot pretend to say, without an exact knowledge of each particular case; but I am inclined to think, that when death is the consequence, the antidote, which is opium, has been too long delayed. No time should be lost in administering it, upon the first serious alarm, and before the powers of Nature are exhausted. What I generally prescribe is laudanum, to be taken in cinnamon or some other cordial water. Ten drops of laudanum may be added to two ounces of simple cinnamon water, and the draught repeated every two hours, or oftener if necessary.

I have found opiates no less successful in diarrhœa, or looseness. Ten grains of the powder of bole compounded with opium, given in a glass of cordial water four or five times a-day, will seldom fail to check a recent diarrhœa, and if judiciously persisted in, will often cure the most obstinate. I would therefore advise, in such cases, a full reliance on its final efficacy, rather than a rash impatience to try other medicines far more uncertain, and perhaps dangerous. But as a looseness may arise from a great variety of causes, how to adapt the mode of medical treatment to each will be explained in the next section.

Diarrhœa or looseness.

Diarrhœa, in many cases is not to be considered as a disease, but rather as a salutary evacuation. It ought, therefore, never to be stopped, unless when it continues too long, or evidently weakens the patient. As this, however, sometimes happens, we shall point out the most common causes of a looseness, with the proper method of treatment.

When a looseness is occasioned by catching cold, or an obstructed perspiration, the patient ought to keep warm, to drink freely of weak diluting liquors, to bathe his feet and legs frequently in lukewarm water, to wear flannel next his skin, and to take every other method to restore the perspiration.

In a looseness which proceeds from excess or repletion, an emetic is the proper medicine. Emetics not only cleanse the stomach, but promote all the secretions, which renders them of great importance in carrying off a debauch. Half a drachm of ipecacuanha in powder will answer this purpose very well. A day or two after the emetic, the same quantity of rhubarb may be tak-

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intestines, as indicated by violent purging and painful contractions of the abdomen. Its effects are more uncertain where the affection of the stomach is obscure; where there is moderate but insidious purging; where there is great sense of heat in the epigastrium, and in every case where collapse has come on. In conjunction with other remedies of the antispasmodic and stimulant kind, blood-letting has latterly been estimated as an important measure in the treatment of this terrific malady; and although brought forward in a late publication, was, we believe, first proposed by Dr. James Johnson, from observing its effects in one or two sporadic cases of cholera in the Island of Ceylon, more than twenty years ago. Ed.

See Report of the Epidemic cholera, &c. by William Scott, surgeon, &c. 4to. Madras, 1824

en, and repeated two or three times, if the looseness continues; castor oil, purging salts, or the subjoined draught.* The patient ought to live on light vegetable food of easy digestion, and to drink whey, thin gruel, or barley-water.

A looseness occasioned by the obstruction of any customary evacuations generally requires bleeding. If that does not succeed, other evacuations may be substituted in the room of those which are obstructed. At the same time, every method is to be taken to restore the usual discharges, as not only the cure of the disease, but the patient's life, may depend on this.

A periodical looseness ought never to be stopped. It is always an effort of Nature to carry off some offending matter, which if retained in the body, might have fatal effects. Children are very liable to this kind of looseness, especially while teething. It is, however, so far from being hurtful to them, that such children generally get their teeth with least trouble. If these loose stools should at any time prove sour or griping, a teaspoonful of magnesia alba, with four or five grains of rhubarb, may be given to the child in a little panada, or any other food, or the mixture advised below.† This, if repeated three or four times, will generally correct the acidity, and carry off the griping stools. The chalk mixture in the annexed forms may be administered in doses of two or three spoonsful after each evacuation, to suspend the inordinate action of the intestinal canal;‡ or a tea-spoonful of fine powdered chalk may be mixed in a teacupful of water-gruel, and given occasionally.

A diarrhœa, or looseness, which proceeds from violent passions or affections of the mind, must be treated with the greatest caution. Vomits in this case are highly improper; nor are purges safe, unless they be very mild, and given in small quantities. Opiates, and other antispasmodic medicines, are most proper. Ten or twelve drops of liquid laudanum may be taken in a cup of valerian or penny-royal tea, every eight or ten hours, till the symptoms abate. Ease, cheerfulness, and tranquillity of mind are here of the greatest importance.

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* Take Carbonate of Magnesia, 1 scr.
Aromatic Confection, ½ drm.
Powdered Rhubarb, 15 grs.
Syrup of Ginger, 1 drm.
Mint Water, 1½ oz.
Make an aperient antacid draught.

or

Take Magnesia, 2 scrs.
Powdered Rhubarb, 8 grs.
Compound Powder of Cinnamon 10 grs.
Make a powder, to be taken morning and evening.

† Take Powdered Rhubarb, 15 grs.
Carbonate of Magnesia, ½ drm.
Dill Water, 2 oz.
Aromatic Spirit of Ammonia, 20 drps.
Tincture of Opium, 10 drps.
Make a mixture; two or three tea-spoonsful, to be taken three times a-day, or oftener if occasion require.

‡ Take Aromatic Confection, 1 drm.
Tincture of Catechu, 1 oz.
Chalk Mixture, 6 oz.
Syrup of Ginger, ½ oz.
Tincture of Opium, 30 drps.
Make a mixture; of which, let two tablespoonsful be taken after each liquid stool, previously shaking the bottle.

or

Take Compound Powder of Chalk with Opium, 1 scr.
Extract of Catechu, 15 grs.
Make a powder; to be taken after each liquid stool.

or

Take Compound Powder of Chalk, 6½ oz.
Opium in Powder, 4 scrs.
Dose, 1 to 2 scruples.

or

Take Extract of Logwood, 1½ drm
Chalk Mixture, 6 oz.
Tincture of Cardamoms, 1 oz.
Make a mixture; and take three tablespoonsful after each liquid motion.

When a looseness proceeds from acrid or poisonous substances taken into the stomach, the patient must drink large quantities of diluting liquors, with oil or fat broths, to promote vomiting and purging. Afterwards, if there be reason to suspect that the bowels are inflamed, bleeding will be necessary. Small doses of laudanum may likewise be taken to remove their irritation.

When the gout, repelled from the extremities, occasions a looseness, it ought to be promoted by gentle doses of rhubarb, or other mild purgatives. The gouty matter is likewise to be solicited towards the extremities by warm fomentations, cataplasms, &c. The perspiration ought at the same time to be promoted by warm diluting liquors; as wine-whey with spirits of hartshorn, or a few drops of liquid laudanum in it.

When a looseness proceeds from worms, which may be known from the sliminess of the stools, mixed with pieces of decayed worms, &c., medicines must be given to kill and carry off these vermin, as the powder of tin, with purges of rhubarb and calomel. Afterwards lime-water, either alone, or with a small quantity of rhubarb infused, will be proper to strengthen the bowels, and prevent the new generation of worms.

A looseness is often occasioned by drinking bad water. When this is the case, the disease generally proves epidemical. When there is reason to believe that this or any other disease proceeds from the use of unwholesome water, it ought immediately to be changed, or if that cannot be done, it may be corrected by mixing with it quick lime, chalk, or the like.

In people whose stomachs are weak, violent exercise immediately after eating will occasion a looseness. Though the cure of this is obvious, yet it will be proper, besides avoiding violent exercise, to use such medicines as tend to brace and strengthen the stomach, as infusions of the bark, with other bitter and astringent ingredients, in white-wine. Such persons ought likewise to take frequently a glass or two of old red port, or good claret.

From whatever cause a looseness proceeds, when it is found necessary to check it the diet ought to consist of rice boiled with milk, and flavoured with cinnamon; rice-jelly, sago with red port, and the lighter sorts of flesh-meat roasted. The drink may be thin water-gruel, rice-water, or weak broth made from lean veal, or with a sheep's head, as being more gelatinous than mutton, beef, or chicken-broth.

Persons who, from a peculiar weakness, or too great an irritability of the bowels, are liable to frequent returns of this disease, should live temperately, avoiding crude summer fruits, all unwholesome foods, and meats of hard digestion. They ought likewise to beware of cold, moisture, or whatever may obstruct the perspiration, and should wear flannel next the skin. All violent passions, as fear, anger, &c. are likewise carefully to be guarded against.

Vomiting.

Vomiting may proceed from various causes; as excess in eating and drinking; foulness of the stomach; the acrimony of the aliments; a translation of the morbific matter of ulcers, of the gout,

the erysipelas, or other diseases, to the stomach. It may likewise proceed from a looseness having been too suddenly stopped; from the stoppage of any customary evacuations, as the bleeding piles, the *menses*, &c. from a weakness of the stomach, the colic, the iliac passion, a rupture, a fit of the gravel, worms, or from any kind of poison taken into the stomach. It is an usual symptom of injuries done to the brain; as contusions, compressions, &c. It is likewise a symptom of wounds or inflammations of the diaphragm, intestines, spleen, liver, kidneys, &c.

Vomiting may be occasioned by unusual motions, as falling, being drawn back in a carriage, &c. It may likewise be excited by violent passions, or by the idea of nauseous or disagreeable objects, especially of such things as have formerly produced vomiting. Sometimes it proceeds from a regurgitation of the bile into the stomach: in this case, what the patient vomits is generally of a yellow or greenish colour, and has a bitter taste. Persons who are subject to nervous affections are often suddenly seized with violent fits of vomiting. Lastly, vomiting is a common symptom of pregnancy. In this case it generally comes on about two weeks after the stoppage of the *menses*, and continues during the first three or four months.

When vomiting proceeds from a foul stomach or indigestion, it is not to be considered as a disease, but as the cure of a disease. It ought, therefore, to be promoted, by drinking lukewarm water, or thin gruel. If this does not put a stop to the vomiting, a dose of ipecacuanha may be taken, and worked off with weak camomile tea.

When the retrocession of the gout, or the obstruction of customary evacuations occasion vomiting, all means must be used to restore these discharges; or, if that cannot be effected, their place must be supplied by others, as bleeding, purging, bathing the extremities in warm water, opening issues, setons, perpetual blisters, &c.

When vomiting is the effect of pregnancy, it may generally be mitigated by bleeding, and keeping the body gently open. The bleeding, however, ought to be in small quantities at a time, and the purgatives should be of the mildest kind, as figs, stewed prunes, manna, or senna. Pregnant women are most apt to vomit in the morning immediately after getting out of bed, which is owing partly to the change of posture, but more to the emptiness of the stomach. It may generally be prevented, by taking a dish of coffee, tea, or some light breakfast, in bed. Pregnant women, who are afflicted with vomiting, ought to be kept easy both in body and mind. They should neither allow their stomachs to be quite empty, nor should they eat much at once. Cold water is a very proper drink in this case; if the stomach be weak, a little brandy may be added to it. If the spirits be low, and the person apt to faint, a spoonful of cinnamon-water, with a little marmalade of quinces or oranges, may be taken.

If vomiting proceeds from weakness of the stomach, bitters will be of service. Peruvian bark infused in wine or brandy, with as much rhubarb as will keep the body gently open, is an excellent medicine in this case. Sulphuric acid is also a good medicine.

It may be taken in the dose of fifteen or twenty drops, twice or thrice a-day, in a glass of wine or water. Habitual vomitings are sometimes alleviated by making oysters a principal part of diet.

A vomiting which proceeds from acidities in the stomach, is relieved by alkaline purges. The best medicine of this kind is the magnesia alba, a teaspoonful of which may be taken in a dish of tea, or a little milk, three or four times a-day, or oftener if necessary, to keep the body open, or any of the cretaceous mixtures recommended in diarrhœa.

When vomiting proceeds from violent passions, or affections of the mind, all evacuants must be carefully avoided, especially vomits. These are exceedingly dangerous. The patient in this case ought to be kept perfectly easy and quiet, to have the mind soothed, and to take some gentle cordial, as negus, or a little brandy and water, to which a few drops of laudanum may occasionally be added.

When vomiting proceeds from spasmodic affections of the stomach, musk, castor, and other antispasmodic medicines are of use. Warm and aromatic plasters have likewise a good effect. Aromatic medicines may likewise be taken inwardly, as cinnamon or mint-tea, wine with spiceries boiled in it, &c. The region of the stomach may be rubbed with æther, or if that cannot be had, with strong brandy, or other spirits. The belly should be fomented with warm water, or the patient immersed up to the breast in a warm bath.

I have always found the saline draughts, taken in the act of effervescence, of singular use in stopping a vomiting, from whatever cause it proceeded. These may be prepared by dissolving a drachm of the subcarbonate of potash, in an ounce and a half of fresh lemon-juice, and adding to it an ounce of peppermint-water, the same quantity of simple cinnamon-water, and a little white sugar. This draught must be swallowed before the effervescence is quite over, and may be repeated every two hours, or oftener, if the vomiting be violent. A violent vomiting has sometimes been stopped by cupping on the region of the stomach, after all other means had failed.

As the least motion will often bring on the vomiting again, even after it has been stopped, the patient must avoid all manner of action. The diet must be so regulated as to sit easy upon the stomach, and nothing should be taken that is hard of digestion. We do not, however, mean that the patient should live entirely upon slops. Solid food, in this case, often sits easier on the stomach than liquids.

CHAP. XXIV.

DIABETES, AND OTHER DISORDERS OF THE URINARY ORGANS.

The diabetes is a frequent and excessive discharge of urine. It is seldom to be met with among young people: but often attacks persons in the decline of life, especially those who follow the more violent employments, or have been hard drinkers in their youth.

Causes.—A diabetes is often the consequence of acute diseases, as fevers, fluxes, &c., where the patient has suffered by excessive evacuations; it may also be occasioned by great fatigue, as riding long journies upon a hard-trotting horse, carrying heavy burdens, running, &c. It may be brought on by hard drinking, or the use of strong stimulating diuretic medicines, as tincture of cantharides, spirits of turpentine, and such like. It is often the effect of drinking too great quantities of mineral waters. Many imagine that these will do them no service unless they be drank in great quantities, by which mistake it often happens that they occasion worse diseases than those they were intended to cure. In a word, this disease may either proceed from too great a laxity of the organs which secrete the urine, from something that stimulates the kidneys too much, or from a thin dissolved state of the blood, which makes too great a quantity of it run off by the urinary passages.

Symptoms.—In a diabetes, the urine generally exceeds in quantity all the liquid food which the patient takes. It is thin and pale, of a sweetish taste, and an agreeable smell. The patient has a continual thirst, with some degree of fever; his mouth is dry, and he spits frequently a frothy spittle. The strength fails, the appetite decays, and the flesh wastes away till the patient is reduced to skin and bone. There is a heat of the bowels; and frequently the loins, testicles, and feet, are swelled.

It has been remarked, that diabetes is often preceded or accompanied with an affection of the lungs; and Dr. Bardsley informs us that he does not recollect an instance of the disease which was not attended with some affection of the chest.

This disease may generally be cured at the beginning: but after it has continued long, the cure becomes very difficult. In drunkards, and very old people, a perfect cure is not to be expected.

Regimen.—Every thing that stimulates the urinary passages, or tends to relax the habit, must be avoided. For this reason, the patient should live chiefly on solid food. His thirst may be quenched with acids; as sorrel, juice of lemon, or vinegar. The mucilaginous vegetables, as rice, sago, and salop, with milk, are the most proper food. Of animal substances, shell-fish are to be preferred; as oysters, crabs, &c.

The Bristol Hot-well waters, when drank at the fountain head, have long been celebrated for their good effects in this disease. When that cannot be obtained, lime-water, in which a due proportion of oak-bark has been macerated, may be used.

The patient ought daily to take exercise, but it should be so gentle as not to fatigue him. He should lie upon a hard bed or mattress. Nothing hurts the kidneys more than lying too soft. A warm dry air, the use of the flesh-brush, and every thing that promotes perspiration, is of service. For this reason, the patient ought to wear flannel next his skin. A large strengthening-plaster may be applied to the back; or, what will answer better, a great part of the body may be wrapped in plaster.

Medicine.—Gentle purges, if the patient be not too much weakened by the disease, have a good effect. They may consist of

rhubarb, with cardamom-seeds, or any other spiceries, infused in wine, and may be taken in such quantities as to keep the body gently open.

The patient must next have recourse to astringents and corroborants. Half a drachm of powder made of equal parts of alum and the inspissated juice, commonly called *Terra Japonica*, may be taken four times a-day, or oftener, if the stomach will bear it. The alum must first be melted in a crucible; afterwards they may both be pounded together. Along with every dose of this powder, the patient may take a tea-cupful of the tincture of roses.*

If the patient's stomach cannot bear the alum in substance, whey may be made of it, and taken in the dose of a tea-cupful three or four times a-day. The alum-whey is prepared by boiling two English quarts of milk over a slow fire, with three drachms of alum, till the curd separates.

Opiates are of service in this disease, even though the patient rests well. They take off spasm and irritation, and at the same time lessen the force of the circulation. Ten or twelve drops of liquid laudanum may be taken in a cup of the patient's drink three or four times a-day.

The best corroborants which we know, are the Peruvian bark and wine. A drachm of bark may be taken in a glass of red port or claret three times a-day. The medicine will be both more efficacious and less disagreeable, if fifteen or twenty drops of the acid elixir of vitriol be added to each dose. Such as cannot take the bark in substance, may use the decoction, mixed with an equal quantity of red wine, and sharpened as above.

There is a disease incident to labouring people in the decline of life, called *an INCONTINENCY of Urine*. But this is very different from a diabetes, as the water passes off involuntarily by drops, and does not exceed the usual quantity. This disease is rather troublesome than dangerous. It is owing to a relaxation of the sphincter of the bladder, and is often the effect of a palsy. Sometimes it proceeds from hurts, or injuries occasioned by blows, bruises, preternatural labours, &c. Sometimes it is the effect of a fever. It may likewise be occasioned by a long use of strong diuretics, or of stimulating medicines injected into the bladder.

This disease may be mitigated by the use of astringent and corroborating medicines, such as have been mentioned above; but we do not remember ever to have seen it cured.†

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* See Appendix, *Tincture of Roses.*

† Dr. Ferriar informs us that he has cured three confirmed cases of this disease by a combination of cinchona, uva ursi, and opium, taken three times a-day, in the proportion of a scruple of each of the former to half a grain of the latter; and that, from the great success he had met with from this medicine, he found it unnecessary to try Dr. Rollo's plan, which is said to have performed a cure under very unpromising circumstances.

The indications to be attended to, Dr. Rollo supposes to be, to destroy the saccharine process going on in the stomach; to promote a healthy assimilation; to prevent a supposed increased absorption by the surface; to diminish the increased action; and to change the imagined derangement of the kidneys. To answer these indications, Dr. Rollo enjoins a diet consisting wholly of animal food, rigid abstinence from every kind of vegetable substance from which sugar may be produced. He likewise enjoins hepatized ammonia, and the subcarbonate of ammonia when this cannot be obtained; the skin to be anointed with prepared lard; exercise to be avoided; antimonial wine

In an incontinency of urine, from whatever cause, a piece of sponge ought to be worn, or a bladder applied in such a manner as to prevent the urine from galling and excoriating the parts.*

Suppression of Urine.

It has already been observed, that a suppression of urine may proceed from various causes; as an inflammation of the kidneys, or bladder; small stones or gravel lodging in the urinary passages, hard *fæces* lying in the *rectum*, pregnancy, a spasm or contraction of the neck of the bladder, clotted blood in the bladder itself, a swelling of the hæmorrhoidal veins, &c.

Some of these cases require the catheter, both to remove the obstructing matter, and to draw off the urine; but as this instrument can only be managed with safety by persons skilled in surgery, we shall say nothing further of its use. A bougee may be used by any cautious hand, and will often succeed better than the catheter.

We would chiefly recommend, in all obstructions of urine, fomentations and evacuants. Bleeding, as far as the patient's strength will permit, is necessary, especially where there are symptoms of topical inflammation. Bleeding in this case not only abates the fever, by lessening the force of the circulation, but, by relaxing the solids, it takes off the spasm or stricture upon the vessels, which occasioned the obstruction.

After bleeding, fomentations must be used. These may either consist of warm water alone, or of decoctions of mild vegetables; as mallows, camomile flowers, &c. Cloths dipped in these may either be applied to the part affected, or a large bladder filled with the decoction may be kept continually upon it. Some put the herbs themselves into a flannel bag, and apply them to the part, which is far from being a bad method. These continue longer warm than cloths dipped in the decoction, and at the same time keep the part equally moist.

In all obstructions of urine the body ought to be kept open. This is not, however, to be attempted by strong purgatives, but by emollient clysters, or gentle infusions of senna and manna. Clysters in this case not only open the body, but answer the purpose of an internal fomentation, and greatly assist in removing the spasms of the bladder and parts adjacent.

The food must be light, and taken in small quantities. The drink may be weak broth, or decoctions and infusions of mucilaginous vegetables, as marsh-mallow roots, lime-tree buds, &c. A teaspoonful of the sweet spirits of nitre, or a drachm of Castile

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with opium to be taken at night; an ulceration of about the size of a half-crown to be kept open opposite each kidney; and the bowels to be kept open by aloes and soap.

At first Dr. Rollo was in the habit of using the sulphuret of potash; for which, however, he was induced to substitute the hepatized ammonia, under the supposition that the alkali of the former had an improper effect on the kidneys: e. g.

Take Sulphuret of Potash, 10 grs.	Take Sulphuret of Potash, 10 grs.
Confection of Roses, q. s.	Mint Water, 1½ oz.
To be made into a bolus, to be taken three times a-day.	Syrup of Ginger, 1 drm.
or	Make a draught to be taken three times a-day. Ed.

*A bottle made of the India rubber, and properly applied, answers this purpose best

soap, may be frequently put into the patient's drink; and, if there be no inflammation, he may drink small gin-punch.

Persons subject to a suppression of urine ought to live very temperate. Their diet should be light, and their liquor diluting. They should avoid all acid and austere wines, should take sufficient exercise, lie hard, and avoid study and sedentary occupations.*

Gravel and Stone. *(Lithiasis.)*

These diseases are the consequence of a peculiar disposition of the fluids, and more particularly the secretion of the kidneys to form a calculous matter, and have been supposed to be owing to the presence of an acid principle in them, called the uric acid; an opinion which seems to be confirmed by the benefit derived from a course of alkaline medicines.

When small stones are lodged in the kidneys, or discharged along with the urine, the patient is said to be afflicted with the gravel. If one of these stones happen to make a lodgment in the bladder for some time, it accumulates fresh matter, and at length becomes too large to pass off with the urine. In this case the patient is said to have the stone.

Causes.—The stone and gravel may be occasioned by high living; the use of astringent wines; a sedentary life: lying too hot, soft, or too much on the back; the constant use of water impregnated with earthy or stony particles; aliments of an astringent or windy nature, &c. It may likewise proceed from an hereditary disposition. Persons in the decline of life, and those who have been much afflicted with the gout or rheumatism, are most liable to it.

Symptoms.—Small stones or gravel in the kidneys occasion fixed pain in the loins, sickness, vomiting, and sometimes bloody urine, and not unfrequently with a slight suppression of urine. When the stone descends into the *ureter*, and is too large to pass along with ease, all the above symptoms are increased; the pain extends towards the bladder; the thigh and leg of the affected side are benumbed; the testicles are drawn upwards, and the urine is obstructed.

A stone in the bladder is known from the pain at the time, as well as before and after making water; from the frequent inclination to void the urine; from the urine coming away by drops, or stopping suddenly when it was running in a full stream; by a violent pain in the neck of the bladder upon motion, especially on horseback, or in a carriage on a rough road; or from a white, thick, copious, stinking, mucous sediment in the urine; from an itching at the top of the *penis;* from bloody urine; from an inclination to go to stool during the discharge of urine; from the

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*Rubbing the abdomen and inside of the thighs with the volatile liniment, composed of equal parts of spirits of hartshorn and oil, will sometimes relieve a suppression of urine; or ten drops of the tincture of the muriate of iron, given every ten minutes, in a wine-glassful of water, will frequently produce the same effect, if the suppression be a consequence of spasm of the neck of the bladder. Ed.

patient's passing his urine more easily when lying than in an erect posture; from a kind of convulsive motion occasioned by the sharp pain in discharging the last drops of the urine; and lastly, from sounding or searching with the sound, which is the only symptom to be depended upon.

When gravel has once formed in the pelvis of the kidneys, or elsewhere, it continues to increase by receiving on its surface new layers of uric acid successively precipitated, of which any one may be convinced by cutting the concretions transversely, which enables us to perceive that they are almost entirely composed of concentric layers.

Regimen.—Persons afflicted with the gravel or stone should avoid aliments of a windy or heating nature, as salt meats, sour fruits, &c. Their diet ought chiefly to consist of such things as tend to promote the secretion of urine, and to keep the body open. Artichokes, asparagus, spinnage, lettuce, parsley, succory, purslane, turnips, potatoes, carrots, and radishes, may be safely eaten. Onions, leeks, and celery are, in this case, reckoned medicinal. The most proper drinks are whey, butter-milk, milk and water, barley-water; decoctions or infusions of the roots of marsh-mallows, parsley, liquorice, or of other mild mucilaginous vegetables, as linseed, lime-tree buds or leaves, &c. If the patient has been accustomed to generous liquors, he may drink gin and water not too strong.

Gentle exercise is proper; but violent motion is apt to occasion bloody urine. We would, therefore, advise that it should be taken in moderation. Persons afflicted with the gravel often pass a great number of stones after riding on horseback, or in a carriage; but those who have a stone in the bladder are seldom able to bear these kinds of exercise. Where there is a hereditary tendency to this disease, a sedentary life ought never to be indulged. Were people careful, upon the first symptoms of gravel, to observe a proper regimen of diet and to take sufficient exercise, it might often be carried off, or at least prevented from increasing, but if the same course which occasioned the disease is persisted in, it must be aggravated.

Medicine.—In what is called a fit of the gravel, which is commonly occasioned by a stone sticking in the *ureter*, or some part of the urinary passages, the patient must be bled; warm fomentations should likewise be applied to the part affected, emollient clysters administered, and diluting mucilaginous liquors drank, &c. The treatment of this case has been fully pointed out under the articles *Inflammation of the Kidneys and Bladder*, to which we refer.

When the preference is given to a palliative mode of treatment of stone in the bladder, in males, instead of resorting to the operation of lithotomy, lithontriptics, which retard or prevent the farther accumulation of calculous matter, may be had recourse to, for example, the fixed alkali, which is not only the most powerful, but

the one most generally employed, and which may be used both in its caustic* and mild state.†

The aerated potash is a preparation somewhat similar in its nature to the aerated alkaline water, and is now used at St. Bartholomew's hospital, and given in the dose of two drachms dissolved in a pint of distilled water, twice a-day. It consists of half an ounce of the subcarbonate of potash, five drachms of distilled water, and one drachm of subcarbonate of ammonia. The potash being dissolved in a water-bath, the ammonia is to be added; and when the effervescence is at an end, the mixture is set aside to chrystallize.

Dr. Whyte advises patients who are subject to frequent fits of gravel in the kidneys, but have no stone in the bladder, to drink every morning, two or three hours before breakfast, an English pint of oyster or cockle-shell lime-water. The Doctor very justly observes that though this quantity might be too small to have any sensible effect in dissolving a stone in the bladder, yet it may very probably prevent its growth.

When a stone is formed in the bladder, the Doctor recommends Spanish soap,‡ and oyster or cockle-shell lime-water, to be taken in the following manner: the patient must swallow every day, in any form that is least disagreeable, an ounce of the internal part of Alicant soap, and drink three or four English pints of oyster or cockle-shell lime-water: the soap is to be divided into three doses; the largest to be taken fasting in the morning early, the second at noon, and the third at seven in the evening, drinking above each dose a large draught of the lime-water, the remainder of which he may take any time betwixt dinner and supper, instead of other liquors.

The patient should begin with a smaller quantity of the lime-water and soap than that mentioned above; at first an English pint of the former, and three drachms of the latter, may be taken daily. This quantity, however, he may increase by degrees, and ought to persevere in the use of these medicines, especially if he finds any abatement of his complaints, for several months; nay, if the stone be very large, for years. It may likewise be proper for the patient, if he be severely pained, not only to begin with the soap and lime-water in small quantities, but to take the second or third lime-water instead of the first. However, after he has been for some time accustomed to these medicines, he may not only take the first water, but if he finds he can easily bear it, heighten its dissolving power still more by pouring it a second time on fresh calcined shells.

Though the caustic alkali and soap-lees, and lime-water, are the most powerful medicines which have hitherto been discovered for the stone, yet there are some things of a more simple nature, which

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*Take Solution of Potash, 20 to 30 drops, three times a-day, in a tea-cupful of veal broth, gradually increasing the dose.

†Take Carbonate of Soda, from 1 scruple to half a drachm three times a-day.

or

Take Lime Water, 1 pint a-day, mixed with milk.

or

Take Soda Water, ½ pint, two or three times a-day.

‡Take Soap Pills, ten grains, for a dose morning and night.

in certain cases are found to be beneficial, and therefore deserve a trial. An infusion of the seeds of *daucus sylvestris*, or wild carrot, sweetened with honey, has been found to give considerable ease in cases where the stomach could not bear any thing of an acrid nature. A decoction of raw coffee-berries taken morning and evening, to the quantity of eight or ten ounces, with ten drops of sweet spirit of nitre, has likewise been found very efficacious in bringing away large quantities of earthy matter in flakes. Honey is likewise found to be of considerable service, and may be taken in gruel, or in any other form that is more agreeable.

It is the opinion of Dr. Duncan that a solution of the subcarbonate of soda in pure water (in the proportion of a scruple to a pint) is preferable to the aerated soda water, on account of the carbonic acid gas not being disengaged on exposure to the atmosphere. On the addition of a small quantity of lemon-juice, or acid of tartar, a very agreeable effervescence is produced. The carbonate of soda, by being combined with an excess of carbonic acid gas in this preparation, is rendered not only more pleasant to the taste, but less liable to offend the stomach; and Dr. Duncan is of opinion that it is the only form in which the soda can be exhibited in sufficient doses, and for a length of time, so as to derive any benefit from its use.

Muriatic acid (particularly in what is called the phosphatic* diathesis) given in doses of twenty or thirty drops, three or four times a-day, diluted with water, has been found, in several cases where gravel was expelled from the bladder, to afford considerable benefit, and to appease the pain in micturition; and is found, moreover, to be a powerful lithontriptic.

The only other medicine which we shall mention is the *uva ursi*. It has been greatly extolled of late, both for the gravel and stone. It seems, however, to be in all respects inferior to the soap and lime-water; but it is less disagreeable, and has frequently, to my knowledge, relieved gravelly complaints. It is generally taken in powder, from half a drachm to a whole drachm, two or three times a-day. It may, however, be taken to the quantity of seven or eight drachms a-day, with great safety and good effect.

The consistence of such stones varies so much, that there is reason to fear no medicine will ever be found sufficiently strong to dissolve the hardest of them, without destroying the bladder. Yet experiments on this subject ought not to be discontinued, as the object is great, and some hard substances are known to be soluble in seemingly mild ones.

I have known several instances where stones, after getting into the urethra, were brought away by means of a bent probe, but how to get them there is the difficulty. It can only happen while they are small, though I have seen flattish stones brought away in this manner, which measured two inches round. I have sometimes thought that riding on a hard-trotting horse, or in a carriage on a rough road, might tend to bring down a small stone.

Most people troubled with the stone are guilty of one great

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* For an account of four species of calculus noticed by Dr. Wollaston and Dr. G. Pearson, see Medical and Chirurgical Review, Vol. iv. p. 486. Vol. v. p. 306. Ed.

error; they put off the operation too long. When it is certainly known that there is a stone in the bladder, and that it is too large to get along the urethra, no time ought to be lost in having it cut out, before the patient's habit becomes too irritable, or the stone is so far increased in size, that it cannot be extracted without a laceration of the parts.*

CHAP. XXV.

INVOLUNTARY DISCHARGES OF BLOOD.
(Hæmorrhagiæ.)

Spontaneous or involuntary discharges of blood often happen from various parts of the body. These, however, are so far from being always dangerous, that they often prove salutary. When such discharges are critical, which is frequently the case in fevers, they ought not to be stopped. Nor, indeed, is it proper, at any time, to stop them, unless they be so great as to endanger the patient's life. Most people, afraid of the smallest discharge of blood from any part of the body, fly immediately to the use of styptic and astringent medicines, by which means an inflammation of the brain, or some other fatal disease, is occasioned, which, had the discharge been allowed to go on, might have been prevented.

Periodical discharges of blood, from whatever part of the body they proceed, must not be stopped. They are always the efforts of Nature to relieve herself; and fatal diseases have often been the consequence of obstructing them. It may, indeed, be sometimes necessary to check the violence of such discharges; but even this requires the greatest caution. Instances might be given where the stopping of a small periodical flux of blood from one of the fingers has proved fatal to the health.

In the early period of life, bleeding at the nose is very common. Those who are farther advanced in years are more liable to hæmoptoe, or discharge of blood from the lungs. After the middle period of life, hæmorrhoidal fluxes are most common, and, in the decline of life, discharges of blood from the urinary passages.

Involuntary fluxes of blood may proceed from very different, and often from quite opposite causes. Sometimes they are owing to a particular construction of the body, as a sanguine temperament, laxity of the vessels, plethoric habit, &c. At other times they proceed from a determination of the blood towards one particular part, as the head, the hæmorrhoidal veins, &c. They may likewise proceed from an inflammatory disposition of the blood, in which case there is generally some degree of fever: this likewise happens when the flux is occasioned by an obstructed perspiration, or a stricture upon the skin, the bowels, or any particular part of the system.

But a dissolved state of the blood will likewise occasion hæmor-

* A tea-spoonful of pure magnesia taken two or three times a-day has of late been discovered to be a most effectual preventive of the gravel and stone, and is of service where alkalis fail to relieve the increased secretion of uric acid, and to prevent its forming calculi in the kidneys; it also agrees better with the stomach.

rhages. Thus, in putrid fevers, dysentery, scurvy, malignant small-pox, &c., there are often very great discharges of blood from different parts of the body. They may likewise be brought on by the too liberal use of medicines which tend to dissolve the blood, as cantharides, the volatile alkaline salt, &c. Food of an acrid or irritating quality may likewise occasion hæmorrhages; as also strong purges and vomits, or any thing that greatly stimulates the bowels.

Violent passions or agitations of the mind will likewise have this effect. These often cause bleeding at the nose, and I have known them sometimes occasion an hæmorrhage in the brain. Violent efforts of the body, by overstraining or hurting the vessels, may have the same effect, especially when the body is long kept in an unnatural posture, as hanging the head very low, &c.

The cure of hæmorrhage must be adapted to its cause. When it proceeds from too much blood, or a tendency to inflammation, bleeding, with gentle purges and other evacuations, will be necessary. It will likewise be proper for the patient in this case to live chiefly upon a vegetable diet, to avoid all strong liquors and food that is of an acrid, hot, or stimulating quality. The body should be kept cool, and the mind easy.

When an hæmorrhage is owing to a putrid or dissolved state of the blood, the patient ought to live chiefly upon acrid fruits with milk, and vegetables of a nourishing nature, as sago, salop, &c. His drink may be wine diluted with water, and sharpened with the juice of lemon, vinegar, or spirits of vitriol. The best medicine in this case is the Peruvian bark, which may be taken according to the urgency of the symptoms.

When a flux of blood is the effect of acrid food, or of strong stimulating medicines, the cure is to be effected by soft and mucilaginous diet. The patient may likewise take frequently about the bulk of a nutmeg of Locatelli's balsam, or the same quantity of spermaceti.

When obstructed perspiration, or a stricture upon any part of the system, is the cause of an hæmorrhage, it may be removed by drinking warm diluting liquors, lying a-bed, bathing the extremities in warm water, &c.

Bleeding at the Nose. *(Epistaxis.)*

Bleeding at the nose is commonly preceded by some degree of quickness of the pulse, flushing in the face, pulsation of the temporal arteries, heaviness in the head, dimness of the sight, heat and itching of the nostrils, &c.

To persons who abound with blood, this discharge is very salutary. It often cures a vertigo, the head-ache, a phrenzy, and even an epilepsy. In fevers, where there is a great determination of blood towards the head, it is of the utmost service. It is likewise beneficial in inflammations of the liver and spleen, and often in the gout and rheumatism. In all diseases where bleeding is necessary, a spontaneous discharge of blood from the nose is of much more service than the same quantity let with a lancet.

In a discharge of blood from the nose, the great point is to de-

termine whether it ought to be stopped or not. It is a common practice to stop the bleeding, without considering whether it be a disease, or the cure of a disease. This conduct proceeds from fear; but it has often bad, and sometimes fatal consequences.

When a discharge of blood from the nose happens in an inflammatory disease, there is always reason to believe that it may prove salutary; and therefore it should be suffered to go on, at least as long as the patient is not weakened by it.

When it happens to persons in perfect health, who are full of blood, it ought not to be suddenly stopped, especially if the symptoms of plethora, mentioned above, have preceded it. In this case it cannot be stopped without risking the patient's life.

In fine, whenever bleeding at the nose relieves any bad symptom, and does not proceed so far as to endanger the patient's life, it ought not to be stopped. But when it returns frequently, or continues till the pulse becomes low, the extremities begin to grow cold, the lips pale, or the patient complains of being sick or faint, it must immediately be stopped.

For this purpose the patient should be set nearly upright, with his head reclining a little, and his legs immersed in water about the warmth of new milk. His hands ought likewise to be put in lukewarm water, and his garters may be tied a little tighter than usual. Ligatures may be applied to the arms, about the place where they are usually made for bleeding, and with nearly the same degree of tightness. These must be gradually slackened as the blood begins to stop, and removed entirely as soon as it gives over.

Sometimes dry lint put up the nostrils will stop the bleeding. When this does not succeed, dossils of lint dipped in strong spirits of wine may be put up the nostrils, or if that cannot be had they may be dipped in brandy. When it arises in elderly people, or returns too frequently, or continues till the patient becomes faint, it ought to be stopped as quick as possible: to effect this, the patient should be exposed freely to cool air, and placed nearly in the erect posture, with the head inclined somewhat backward; drinking freely of cold liquor, and some saline medicine,* and living abstemiously. Besides these means, the patient may immerse his head in a pailful of cold water impregnated with the muriate of ammonia, or common salt, and snuff vinegar diluted with cold water up the nose; or some astringent wash† may frequently be thrown up the nostril from which the hæmorrhage proceeds, by means of a syringe. At the same time the body, if necessary, may be kept open, with cooling purgatives, in order to make some derivation from the blood-vessels of the head; the patient carefully avoiding all those circumstances which might either determine the blood to the head, or prevent its free return from it.

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* Take Acidulated Infusion of Roses, 6 oz.
Nitrate of Potash, 1 drm.
Make a mixture; of which, take three table-spoonsful every three hours.
or
Take Diluted Sulphuric Acid, 24 drps.
Water, 1½ oz.
Syrup of Roses, 2 drs.
Tincture of Opium, 15 drps.
Make a draught, to be taken three or four times a-day.

† Take Powdered Alum, 2 drs.
Rose Water, 6 oz.
Distilled Vinegar, 1 oz.
Make an injection.
or
Take Muriated Tincture of Iron, 1½ drm.
Distilled water, 6 oz.
Mix, and make an injection.

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The piles may be occasioned by an excess of blood, by strong aloetic purges, high-seasoned food, drinking great quantities of sweet wines, the neglect of bleeding, or other customary evacuations, much riding, great costiveness, or any thing that occasions hard and difficult stools. Anger, grief, or other violent passions, will likewise occasion the piles. I have often known them brought on by sitting on the damp ground. A pair of thin breeches will excite the disorder in a person who is subject to it, and sometimes even in those who never had it before. Pregnant women are often afflicted with the piles.

A flux of blood from the *anus* is not always to be treated as a disease. It is even more salutary than bleeding at the nose, and often prevents or carries off diseases. It is peculiarly beneficial in the gout, rheumatism, asthma, and hypochondriacal complaints, and often proves critical in colics, and inflammatory fevers.

In the treatment of piles due attention should be paid to the cause from which they have arisen; and as costiveness is one of the most frequent, the bowels ought to be kept open and regular by means of gentle laxative medicines;* and as a habit may be acquired, the patient will do well to observe stated times in the day for endeavouring to obtain motions, but without straining. Should none be procured by the aid of the laxative medicine, the peristaltic motion may be excited by clysters of tepid water with soap and oil.

In the management of the patient, regard must be had to his habit of body, his age, strength, and manner of living. A discharge which might be excessive and prove hurtful to one, may be very moderate, and even salutary to another. That only is to be esteemed dangerous, which continues too long, and is in such quantity as to waste the patient's strength, hurt the digestion, nutrition, and other functions necessary to life.

When this is the case, the discharge must be checked by a proper regimen, and astringent medicines. The DIET must be cool but nourishing, consisting chiefly of bread, milk, cooling vegetables, and broths. The DRINK may be chalybeate water, orange-whey, decoctions or infusions of the astringent and mucilaginous plants, as the tormentil root, bistort, the marsh-mallow roots, &c.

Old conserve of red roses is very good medicine in this case. It may be mixed with new milk, and taken in the quantity of an ounce three or four times a-day. This medicine is in no great repute, owing to its being seldom taken in such quantity as to produce any effects; but when taken as here directed, and duly persisted in, I have known it perform very extraordinary cures in violent hæmorrhages, especially when assisted by the tincture of roses; a tea-cupful of which may be taken about an hour after every dose of the conserve.

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* Take Lenitive Electuary, 2 oz.
Powdered Jalap, 2 drs.
Nitrate of Potash, 1½ drm.
Syrup of Buckthorn, enough to form an electuary. The bulk of a nutmeg to be taken occasionally.

or

Take Castor Oil, 6 drs. to 1 oz.

or

Take Powdered Jalap, 1 scr.
Cream of Tartar, 2 scrs.
Make a powder for a dose.

The Peruvian bark is likewise proper in this case, both as a strengthener and astringent. Half a drachm of it may be taken in a glass of red wine, sharpened with a few drops of the elixir of vitriol, three or four times a-day.

The bleeding piles are sometimes periodical, and return regularly once a month, or once in three weeks. In this case they are always to be considered as a salutary discharge, and by no means to be stopped. Some have entirely ruined their health by stopping a periodical discharge of blood from the hæmorrhoidal veins.

In the *blind piles*, bleeding is generally of use. The diet must be light and thin, and the drink cool and diluting. It is likewise necessary that the body be kept gently open. This may be done by small doses of the flour of brimstone and cream of tartar.* These may be mixed in equal quantities, and a tea-spoonful taken two or three times a-day, or oftener if necessary. Or an ounce of the flour of brimstone and half an ounce of purified nitre, may be mixed with three or four ounces of the lenitive electuary, and a tea-spoonful of it taken three or four times a-day.

Emollient clysters are here likewise beneficial; but there is sometimes such an astriction of the *anus*, that they cannot be thrown up. In this case I have known a vomit have a very good effect.

When the piles are exceedingly painful and swelled, but discharge nothing, the patient must sit over the steam of warm water. He may likewise apply a linen cloth dipped in warm spirits of wine to the part, or poultices made of bread and milk, or of leeks fried with butter. If these do not produce a discharge, and the piles appear large, leeches must be applied as near them as possible, or if they will fix upon the piles themselves, so much the better. When leeches will not fix, the piles may be opened with a lance. The operation is very easy, and is attended with no danger.

Various ointments, and other external applications, are recommended in the piles; but I do not remember to have seen any effects from these worth mentioning. Their principal use is to keep the part moist, which may be done as well by a soft poultice, or an emollient cataplasm. When the pain, however, is very great, some anodyne liniment may be applied.†

Perhaps no other cause of the piles is so frequent as the use of aloetic purgatives. It is to be observed that aloes forms a considerable share of almost all advertised purging pills. A costive habit is more effectually, and much more safely removed, by a spoonful of castor oil taken occasionally in an evening.

When the piles are very painful, the best external application is a weak solution of sugar of lead with a little laudanum, or an ointment composed of similar ingredients.‡ An ointment made of one-

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* Take Sublimed Sulphur, 1 oz.
Lenitive Electuary, 2 oz.
Cream of Tartar, 3 drs.
Syrup of Roses; enough to make the whole into an electuary. Dose, the size of a nutmeg occasionally.

† Take Spermaceti Ointment, 2 oz.
Opium, fine powdered, 1 drm.
Make an ointment.

‡ Take Spermaceti Ointment,
Cerate of Superacetate of Lead, of each, ½ oz.
Opium in Powder, ½ drm.
Mix for an ointment.

third finely powdered galls, and two-thirds hog's lard, is very useful. When the piles are seated high, relief may frequently be obtained from the injection of lime-water, or of an infusion of galls.

The pain of the piles is very often removed by an emetic, or by taking twice a-day thirty drops of balsam of copaiva on a little moist sugar. When a pile has a narrow neck, it is best extirpated by the knife. If the pile be large, or has a broad basis, a double ligature may be passed through it, and tied on each side.

When piles are neglected, they are very apt to produce a *fistula*. This complaint is discovered by a stain of matter on the linen, which, on examination, will be found to proceed from a small orifice in the neighbourhood of the anus. Various local remedies are recommended for this complaint. The utility of all of them depends on their power of stimulating the sides of the ulcer into more active inflammation, so as to make them cohere together. On this principle, I think I have seen advantage from taking a wine-glass of sea-water every night for a month or six weeks. Irritating injections have been used with similar intentions, and have sometimes, when duly persisted in, succeeded.

The only certain radical cure for a fistula is a surgical operation, the object of which is to reduce the ulcer to the state of a simple wound, and as such to heal it. This should never be too long neglected. The disease gradually diffuses itself in various directions through the cellular substance surrounding the rectum; and new openings are formed, which render the complaint more difficult to be removed.

There are two ways of performing the operation. One is by passing a silk thread, or piece of flexible gold wire in at the external orifice of the fistula, and bringing it out at the anus, and then twisting the ends together, which is daily repeated till it cuts its way out. By some timid people this mode of cure is preferred to the knife: and, though kept a secret by some pretenders to medical knowledge, it is as old as the history of surgery. The incision, however, is the more certain and effectual mode of eradicating the disease; and if suffering is to be estimated by duration, the less painful also.

Spitting of Blood. *(Hæmoptysis.)*

We mean here to treat of that discharge of blood from the lungs only which is called an *hæmoptoe*, or *spitting of blood*. Persons of a slender make, and a lax fibre, who have long necks and strait breasts, are most liable to this disease. It is most common in the spring, and generally attacks people before they arrive at the prime or middle period of life. It is a common observation that those who have been subject to bleeding at the nose when young, are afterwards most liable to an hæmoptoe.

Causes.—An hæmoptoe may proceed from excess of blood, from a peculiar weakness of the lungs, or a bad conformation of the breast. It is often occasioned by excessive drinking, running, wrestling, singing, or speaking aloud. Such as have weak lungs ought to avoid all violent exertions of that organ, as they value

life. They should likewise guard against violent passions, excessive drinking, and every thing that occasions a rapid circulation of the blood.

This disease may likewise proceed from wounds of the lungs. These may either be received from without, or they may be occasioned by hard bodies getting into the wind-pipe, and so falling down upon the lungs, and hurting that tender organ. The obstruction of any customary evacuation may occasion a spitting of blood; as neglect of bleeding or purging at the usual seasons, the stoppage of the bleeding-piles in men, or the menses in women, &c. It may likewise proceed from a polypus, a scirrhous concretion, or any thing that obstructs the circulation of the blood in the lungs. It is often the effect of a long and violent cough; in which case it is generally the forerunner of a consumption. A violent degree of cold suddenly applied to the external part of the body will occasion an hæmoptoe. It may likewise be occasioned by breathing air which is too much rarified to be able properly to expand the lungs. This is often the case with those who work in hot places, as furnaces, glass-houses, or the like. It is likewise said to happen to such as ascend to the top of very high mountains, as the Peak of Teneriff, &c. It arises mostly between the age of sixteen and twenty-five.

Spitting of blood is not usually attended with danger, nor is it always to be considered as a primary disease. It is often only a symptom, and in some diseases not an unfavourable one. This is the case in pleurisies, peripneumonies, and sundry other fevers. In a dropsy, scurvy, or consumption, it is a bad symptom, and shows that the lungs are ulcerated.

Symptoms.—Spitting of blood is generally preceded by a sense of weight, and oppression of the breast, a dry tickling cough, hoarseness, and a difficulty of breathing. Sometimes it is ushered in with shivering, coldness of the extremities, costiveness, great lassitude, flatulence, pain of the back and loins, &c. As these show a general stricture upon the vessels, and a tendency of the blood to inflammation, they are commonly the forerunners of a very copious discharge. The above symptoms do not attend a discharge of blood from the gums or fauces, by which means they may always be distinguished from an hæmoptoe. Sometimes the blood that is spit up is thin, and of a florid red colour; and at other times it is thick, and of a dark or blackish colour; nothing, however, can be inferred from this circumstance, but that the blood has lain a longer or shorter time in the breast before it was discharged.

Spitting of blood, in a strong healthy person, of a sound constitution, is not very dangerous; but when it attacks the tender and delicate, or persons of a weak lax fibre, it is with difficulty removed. When it proceeds from a scirrhous or polypus of the lungs, it is bad. The danger is greater when the discharge proceeds from the rupture of a large vessel, than of a small one. When the extravasated blood is not spit up, but lodges in the breast, it corrupts, and greatly increases the danger. When the blood proceeds from an ulcer in the lungs, it is generally fatal.

Regimen.—The patient ought to be kept cool and easy. Every thing that heats the blood, or quickens the circulation, increases the danger. The mind ought likewise to be soothed, and every occasion of exciting the passions avoided. The diet should be soft, cooling and slender; as rice boiled with milk, small broths, barley-gruels, panado, &c. The diet, in this case, can scarcely be too low. Even water-gruel is sufficient to support the patient for some days. All strong liquors must be avoided. The patient may drink milk and water, barley-water, whey, butter-milk and such like. Every thing, however, should be drank cold, and in small quantities at a time. He should observe the strictest silence, or at least speak with a very low voice.

Medicine.—This, like the other involuntary discharges of blood, ought not to be suddenly stopped by astringent medicines. More mischief is often done by these, than if it were suffered to go on. It may, however, proceed so far as to weaken the patient, and even endanger his life; in which case proper means must be used for restraining it.

The body should be kept gently open by laxative diet; as roasted apples, stewed prunes, and such like. If these should not have the desired effect, a tea-spoonful of the lenitive electuary may be taken twice or thrice a-day, as is found necessary. If the bleeding proves violent, ligatures may be applied to the extremities, as directed for a bleeding at the nose; cooling purgatives,* such as manna, tamarinds, phosphorated soda, sulphate of potash, &c. refrigerants, &c.†

If the patient be hot or feverish, bleeding and small doses of nitre will be of use; a scruple or half a drachm of nitre may be taken in a cup of his ordinary drink twice or thrice a-day. His drink may likewise be sharpened with acids, as juice of lemon, or a few drops of sulphuric acid, sufficiently diluted with water; or he may take frequently a cup of the tincture of roses.

Bathing the feet and legs in lukewarm water has likewise a very good effect in this disease. Opiates, too, are sometimes beneficial; but these must be administered with caution. Ten or twelve drops of laudanum may be given in a cup of barley-water twice a-day, and continued for some time, provided they be found beneficial.

The conserve of roses is likewise a very good medicine in this case, provided it be taken in sufficient quantity, and long enough persisted in. It may be taken to the quantity of three or four ounces a-day; and, if the patient be troubled with a cough, it should be made into an electuary with balsamic syrup, and a little of the syrup of poppies, or a bolus may be given in the form below.‡

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* Take infusion of Roses, 1½ oz.
Epsom Salts, 3 drs.
Make a draught; to be taken twice a-day.

† Take Infusion of Roses, 1½ oz.
Nitre, 15 grs.
Tincture of Opium, 10 drps.
Make a draught; to be taken every fourth hour.

or

Take Cream of Tartar, 3 drs.
Purified Nitre, 2 drs.
Make four powders: one to be taken every fourth hour.

‡ Take Powdered Alum, 8 grs.
Extract of Catechu, 10 grs.
Conserve of Roses, sufficient to make a bolus.
To be taken every four hours, washing it down with three table-spoonsful of the infusion of roses.

If stronger astringents be necessary, fifteen or twenty drops of sulphuric acid may be given in a glass of water, three or four times a-day.

Those who are subject to frequent returns of this disease should avoid all excess. Their diet should be light and cool, consisting chiefly of milk and vegetables. Above all, let them beware of vigorous efforts of the body, and violent agitations of the mind.*

Vomiting of Blood. *(Hæmatemesis.)*

This is not so common as the other discharges of blood which have already been mentioned; but it is very dangerous, and requires particular attention.

Vomiting of blood is generally preceded by pain of the stomach, sickness, and nausea; and is accompanied with great anxiety, and frequent fainting fits.

This disease is sometimes periodical; in which case it is less dangerous. It often proceeds from an obstruction of the menses in women, and sometimes from the stoppage of the hæmorrhoidal flux in men. It may be occasioned by any thing that greatly stimulates or wounds the stomach, as strong vomits or purges, acrid poison, sharp or hard substances taken into the stomach, &c. It is often the effect of obstructions in the liver, the spleen, or some of the other viscera. It may likewise proceed from external violence, as blows or bruises, or from any of the causes which produce inflammation. In hysteric women, vomiting of blood is a very common, but by no means a dangerous symptom.

A great part of the danger in this disease arises from the extravasated blood lodging in the bowels, and becoming putrid, by which means a dysentery or putrid fever may be occasioned. The best way of preventing this, is to keep the body gently open, by frequently exhibiting emollient clysters. Purges must not be given till the discharge is stopped, otherwise they will irritate the stomach, and increase the disorder. All the food and drink must be of a mild cooling nature, and taken in small quantities. Even drinking cold water has sometimes proved a remedy, but it will succeed better when sharpened with the weak spirits of vitriol. When there are signs of an inflammation, bleeding may be necessary; but the patient's weakness will seldom permit it. Opiates may be

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* Dr. Rush of Philadelphia has published some interesting facts concerning the utility of common salt, in curing hæmorrhage from the lungs. As this remedy may be obtained every where without difficulty, its effects ought to be made generally known. The following are the Doctor's own words.

"The mode of giving it, is to pour down from a tea to a table-spoonful of clean fine salt, as soon as possible after the hæmorrhage begins from the lungs. This quantity generally stops it; but the dose must be repeated daily for three or four days, to prevent a return of the disorder. If the bleeding continues, the salt must be continued till it is checked, but in larger doses. I have heard of several instances in which two table-spoonsful were taken at one time for several days.

"It sometimes excites a sickness at the stomach, and never fails to produce a burning sensation in the throat in its passage into the stomach, and considerable thirst afterwards.

"I have found this remedy to succeed equally well in hæmorrhages, whether they were active or passive, or whether they occurred in young or in old people.—Medical Inquiries, &c. vol. i. Ed.

of use; but they must be given in very small doses, as four or five drops of liquid laudanum twice or thrice a-day.*

After the discharge is over, as the patient is generally troubled with gripes, occasioned by the acrimony of the blood lodged in the intestines, gentle purges of Epsom salts, tartarized soda, &c. may be given in the almond mixture; and infusion of roses and sulphuric acid should be given regularly every six hours.†

Bloody Urine. *(Hæmaturia.)*

This is a discharge of blood from the vessels of the kidneys or bladder, occasioned by their being either enlarged, broken, or eroded. It is more or less dangerous according to the different circumstances which attend it.

When pure blood is voided suddenly, without interruption and without pain, it proceeds from the kidneys; but if the blood be in small quantity, of a dark colour, and emitted with heat and pain about the bottom of the belly, it proceeds from the bladder. When bloody urine is occasioned by a rough stone descending from the kidneys to the bladder, which wounds the *ureter*, it is attended with a sharp pain in the back, and difficulty of making water. If the coats of the bladder are hurt by a stone, and the bloody urine follows, it is attended with the most acute pain, and a previous stoppage of urine.

Bloody urine may likewise be occasioned by falls, blows, the lifting or carrying of heavy burdens, hard riding, or any violent motion. It may also proceed from ulcers of the bladder, from a stone lodged in the kidneys, or from violent purges, or sharp diuretic medicines, especially cantharides.

Bloody urine is always attended with some degree of danger; but it is peculiarly so when mixed with purulent matter, as this shows an ulcer somewhere in the urinary passages. Sometimes this discharge proceeds from excess of blood, in which case it is rather to be considered as a salutary evacuation than a disease. If the disease, however, be very great, it may waste the patient's strength, and occasion an ill habit of body, a dropsy, or a consumption.

The treatment of this disorder must be varied according to the different causes from which it proceeds.

When it is owing to a stone in the bladder, the cure depends upon an operation, a description of which would be foreign to our purpose.

If it be attended with a plethora, and symptoms of inflammation, bleeding will be necessary. The body must likewise be kept open by emollient clysters, or cooling purgative medicines; as cream of tartar, rhubarb, manna, or small doses of lenitive electuary.

When bloody urine proceeds from a dissolved state of the blood,

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* Take Infusion of Roses, 1½ oz. Diluted Sulphuric Acid, 10 drps. Syrup of Roses, 1 drm. Tincture of Opium, 10 drps. Make a draught; to be taken every one or two hours.

† Vomiting of blood may frequently be cured by the administration of an active purgative, as ten or fifteen grains of the stomach-pill at bed-time for three or four nights successively. Ed.

it is commonly the symptom of some malignant disease; as the small-pox, a putrid fever, or the like. In this case the patient's life depends on the liberal use of the Peruvian bark, wine, and acids, as has already been shown.*

When there is reason to suspect an ulcer in the kidneys or bladder, the patient's diet must be cool, and his drink of a demulcent, healing, balsamic quality, as decoctions of marsh-mallow roots with liquorice, solutions of gum-arabic, &c. Three ounces of marsh-mallow roots, and half an ounce of liquorice, may be boiled in two English quarts of water to one; two ounces of gum-arabic, and half an ounce of purified nitre, may be dissolved in the strained liquor, and a tea-cupful of it taken four or five times a-day.

The early use of astringents in this disease has often bad consequences. When the flux is stopped too soon, the grumous blood, by being confined in the vessels, may produce inflammations, abscess, and ulcers. If, however, the case be urgent, or the patient seems to suffer from the loss of blood, gentle astringents may be necessary. In this case the patient may take three or four ounces of lime-water, with half an ounce of the tincture of Peruvian bark, three times a-day; or he may take an ounce or two of the conserve of roses three or four times a-day, drinking a tea-cupful of the tincture of roses after it; or, if stronger styptics be necessary, a dram of Armenian bole in a cup of whey may be taken three or four times a-day, or the annexed.†

Dysentery, or Bloody Flux. *(Dysenteria.)*

This disease prevails in the spring and autumn. It is most common in marshy counties, where, after hot and dry summers, it is apt to become epidemic. Persons are most liable to it who are much exposed to the night air, or who live in places where the air is confined and unwholesome. Hence it often proves fatal in camps, on shipboard, in jails, hospitals, and such like places.

Causes.—The dysentery may be occasioned by any thing that obstructs the perspiration, or renders the humours putrid; as damp beds, wet clothes, unwholesome diet, bad air, &c. But it is most frequently communicated by infection. This ought to make people extremely cautious in going near such persons as labour under the disease. Even the smell of the patient's excrements has been known to communicate the infection.

Symptoms.—It is known by a flux of the belly, attended by violent pain of the bowels, tenesmus, or a constant inclination to go to stool, and generally more or less blood in the stools. It begins, like other fevers, with chilness, loss of strength, a quick pulse, great thirst, and an inclination to vomit. The stools are at first

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* Take Confection of Red Roses, 1 oz.
Infusion of Roses, Warm, 1 pint.
Macerate for half an hour, and strain.
or
Take of this Strained Liquor, 13 drs.
Diluted Sulphuric Acid, 10 drps.
Make a mixture; to be taken three times a-day.

† Take Purified Alum, ½ scr.
Kino in Powder, 5 grs.
Make a powder; to be taken three times a-day.

greasy and frothy, afterwards they are streaked with blood, and at last have frequently the appearance of pure blood, mixed with small filaments resembling bits of skin. Worms are sometimes passed both upwards and downwards, through the whole course of the disease. When the patient goes to stool, he feels a bearing down, as if the whole bowels were falling out, and sometimes a part of the intestine is actually protruded, which proves exceedingly troublesome, especially in children. Flatulency is likewise a troublesome symptom, especially towards the end of the disease.

This disease may be distinguished from a diarrhœa, or looseness, by the acute pain of the bowels, and the blood which generally appears in the stools. It may be distinguished from the *cholera morbus* by its not being attended with such violent and frequent fits of vomiting, &c.

When the dysentery attacks the old, the delicate, or such as have been wasted by the gout, the scurvy, or other lingering diseases, it generally proves fatal. Vomiting and hiccuping are bad signs, as they show an inflammation of the stomach. When the stools are green, black, or have an exceedingly disagreeable cadaverous smell, the danger is very great, as it shows the disease to be of the putrid kind. It is an unfavourable symptom when clysters are immediately returned; but still more so when the passage is so obstinately shut that they cannot be injected. A feeble pulse, coldness of the extremities, with difficulty of swallowing, and convulsions, are signs of approaching death.

Regimen.—Nothing is of more importance in this disease than cleanliness. It contributes greatly to the recovery of the patient, and no less to the safety of such as attend him. In all contagious diseases the danger is increased, and the infection spread, by the neglect of cleanliness, but in no one more than in this. Every thing about the patient should be frequently changed. The excrements should never be suffered to continue in his chamber, but removed immediately, and buried under ground. A constant stream of fresh air should be admitted into the chamber, and it ought frequently to be sprinkled with vinegar, juice of lemon, or some other strong acids.

The patient must not be discouraged, but his spirits kept up in hopes of a cure. Nothing tends more to render any putrid disease mortal than the fears and apprehensions of the sick. All diseases of this nature have a tendency to sink and depress the spirits, and when that is increased by fears and alarms from those whom the patient believes to be persons of skill, it cannot fail to have the worst effect.

A flannel waistcoat worn next the skin has often a very good effect in the dysentery. This promotes the perspiration, without overheating the body. Great caution, however, is necessary, in leaving it off. I have often known a dysentery brought on by imprudently throwing off a flannel waistcoat before the season was sufficiently warm. For whatever purpose this piece of dress is worn, it should never be left off but in a warm season.

In this disease the greatest attention must be paid to the patient's diet; flesh, fish, and every thing that has a tendency to turn putrid

or rancid on the stomach, must be abstained from. Apples boiled in milk, water-pap, and plain light pudding, with broth made of the gelatinous parts of animals, may constitute the principal part of the patient's food. Gelatinous broth not only answers the purpose of food, but likewise a medicine. I have often known dysenteries, which were not of a putrid nature, cured by it, after pompous medicines had proved ineffectual.*

Another kind of food very proper in the dysentery, which may be used by such as cannot take the broth mentioned above, is made by boiling a few handsful of fine flour, tied in a cloth, for six or seven hours, till it becomes as hard as starch. Two or three tablespoonsful of this may be grated down, and boiled in such a quantity of new milk and water as to be of the thickness of pap. This may be sweetened to the patient's taste, and taken for his ordinary food.†

In a *putrid dysentery* the patient may be allowed to eat freely of most kinds of good ripe fruit: as apples, grapes, gooseberries, currant-berries, strawberries, &c. These may either be eaten raw or boiled, with or without milk, as the patient chooses. The prejudice against fruit in this disease is so great, that many believe it to be the common cause of dysenteries. This, however, is an egregious mistake. Both reason and experience show, that good fruit is one of the best medicines, both for the prevention and cure of the dysentery. Good fruit is in every respect calculated to counteract that tendency to putrefaction, from whence the most dangerous kind of dysentery proceeds. The patient in such a case ought, therefore, to be allowed to eat as much fruit as he pleases, provided it be ripe.‡

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* The manner of making this broth is, to take a sneep s head and feet, with the skin upon them, and to burn the wool off with a hot iron; afterwards to boil them till the broth is quite a jelly. A little cinnamon or mace may be added, to give the broth an agreeable flavour, and the patient may take a little of it warm, with toasted bread. three or four times a-day. A clyster of it may likewise be given twice a-day. Such as cannot use broth made in this way, may have the head and feet skinned; but we have reason to believe that this injures the medicine. It is not our business here to reason upon the nature and qualities of medicine, otherwise this might be shown to possess virtues every way suited to the cure of a dysentery which does not proceed from a putrid state of the humours. One thing we know, which is preferable to all reasoning, that whole families have often been cured by it, after they had used many other medicines in vain. It will, however, be proper that the patient take a vomit, and a dose or two of rhubarb, before he begins to use the broth. It will likewise be necessary to continue the use of it for a considerable time, and to make it the principal food.

† The learned and humane Dr. Rutherford, late professor of medicine in the university of Edinburgh, used to mention this food in his public lectures with great encomiums. He directed it to be made by tying a pound or two of the finest flour, as tight as possible, in a linen rag, afterwards to dip it frequently in water, and to dridge the outside with flour till a cake or crust was formed around it, which prevents the water from soaking into it while boiling. It is then to be boiled till it becomes a hard dry mass, as directed above. This, when mixed with milk and water, will not only answer the purpose of food, but may likewise be given in clysters.

‡ I lately saw a young man who had been seized with a dysentery in North America Many things had been tried there for his relief, but to no purpose. At length, tired out with disappointments from medicine, and reduced to skin and bone, he came over to Britain, rather with a view to die among his relations. than with any hopes of a cure. After taking sundry medicines here with no better success than abroad, I advised him to leave off the use of drugs, and to trust entirely to a diet of milk and fruits, with gentle exercise. Strawberries was the only fruit he could procure at that season. These he ate with milk twice, and sometimes thrice a-day. The consequence was, that in a short time his stools were reduced from upwards of twenty in a-day, to three

The most proper drink in this disorder is whey. The dysentery has often been cured by the use of clear whey alone. It may be taken both for drink, and in form of clyster. When whey cannot be had, barley-water sharpened with cream of tartar may be drank, or a decoction of barley and tamarinds; two ounces of the former and one of the latter may be boiled in two English quarts of water to one. Warm water, water-gruel, or water wherein hot iron has been frequently quenched, are all very proper, and may be drank in turns. Camomile-tea, if the stomach will bear it, is an exceedingly proper drink. It both strengthens the stomach, and by its antiseptic quality tends to prevent a mortification of the bowels.

MEDICINE.—At the beginning of this disease it is always necessary to cleanse the first passages. For this purpose an emetic ipecacuanha must be given, and wrought off with weak camomile tea. Strong vomits are seldom necessary here. A scruple, or at most half a drachm of ipecacuanha, is generally sufficient for an adult, and sometimes a very few grains will suffice. The day after the vomit, half a drachm or two scruples of rhubarb must be taken; or, what will answer the purpose rather better, an ounce, or an ounce and a half, of Epsom salts.* This dose may be repeated every other day for two or three times. Afterwards small doses of ipecacuanha may be taken for some time. Two or three grains of the powder may be mixed in a table-spoonful of the syrup of poppies, and taken three times a-day.

Should the medicines here prescribed not procure copious stools, stronger purgatives must then be employed.† Some practitioners are in the habit of combining emetic and purgative medicines; such as some of the mild neutral salts with tartarized, and often with very good effect.‡

These evacuations, and the regimen prescribed above, will often be sufficient to effect a cure. Should it, however, happen otherwise, the following astringent medicines may be used:—

A clyster of starch or fat mutton-broth, with thirty or forty drops of liquid laudanum in it, may be administered twice a-day. At the same time an ounce of gum-arabic, and half an ounce of gum-tragacanth, may be dissolved in an English pint of barley-water, over a slow fire, and a table spoonful of it taken every hour.

If these have not the desired effect, the patient may take, four times a-day, about the bulk of a nutmeg of the extract of catechu, drinking after it a tea-cupful of the decoction of logwood.

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or four, and sometimes not so many. He used the other fruits as they came in, and was in a few weeks so well as to leave that part of the country where I was, with a view to return to America.

* Take Epsom Salts, 1 oz.
Manna, ½ oz.
Warm Water,
Peppermint Water,
of each, 2½ oz.
Dose, four table-spoonsful occasionally.
or
Take Castor Oil, 1 oz. for a dose.

† Take Submuriate of Mercury, 3 grs.
Jalap, 1 scr.
Syrup of Buckthorn, enough to form the mass into five pills for a dose.

‡ Take Infusion of Senna, 5 oz.
Tartrite of Potash, 1 oz.
Tartarized Antimony, 2 grs.
Make a mixture, of which take four table-spoonsful every three hours, until the bowels are sufficiently moved.

The astringents best adapted for the cure of a dysentery are the different preparations of catechu, gum kino, logwood, &c., which may be given as below,* the patient at the same time taking port wine properly diluted with water for his ordinary drink. Lime-water mixed with an equal quantity of milk has been recommended as a useful remedy towards the latter end of the disease.

In the advanced and chronic state of the disease, at which time acidity of the stomach is apt to prevail, absorbents, as the chalk mixture, compound powder of chalk, lime-water, &c. conjoined with opiates, will be serviceable.

Persons who have been cured of this disease are very liable to relapse; to prevent which, great circumspection with respect to diet is necessary. The patient must abstain from all fermented liquors, except now and then a glass of good wine; but he must drink no kind of malt liquor. He should likewise abstain from animal food, as fish and flesh, and live principally on milk and vegetables.

Gentle exercise and wholesome air are likewise of importance. The patient should go to the country as soon as his strength will permit, and should take exercise daily on horseback, or in a carriage. He may likewise use bitters infused in wine or brandy, and may drink twice a-day a gill of lime-water mixed with an equal quantity of new milk.

When dysenteries prevail, we would recommend a strict attention to cleanliness, a spare use of animal food, and the free use of sound ripe fruits, and other vegetables. The night air is to be carefully avoided, and all communication with the sick. Bad smells are likewise to be shunned, especially those which arise from putrid animal substances. The necessaries where the sick go are carefully to be avoided.

There are various other fluxes of the belly, as the LIENTERY and CŒLIAC PASSION, which, though less dangerous than the dysentery, yet merit consideration. These diseases generally proceed from a relaxed state of the stomach and intestines, which is sometimes so great, that the food passes through them with hardly any sensible alteration; and the patient dies merely from the want of nourishment.

When the lientery or cœliac passion succeeds to a dysentery, the case is bad. They are always dangerous in old age, especially when the constitution has been broken by excess or acute diseases. If the stools be very frequent and quite crude, the thirst great, with little urine, the mouth ulcerated, and the face marked with spots of different colours, the danger is very great.

The treatment of the patient is in general the same as in the

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* Take Extract of Logwood, 3 drs.
Water, 7 oz.
Spirit of Cinnamon, 1 oz.
Tincture of Catechu, 2 drs.
Mix, and give two table-spoonsful every four hours.

or

Take Extract of Logwood, 1 drm.
Chalk Mixture, ½ oz.
Tincture of Catechu, 2 drs.
Spirit of Nutmegs, 1 oz.
Mix.—Dose, three table-spoonsful or more every hour.

or

Take Extract of Catechu, 15 grs.
Pimenta Water, 1½ oz.
Tincture of Kino, 1 drm.
——— of Opium, 10 drps.
Make a draught to be taken every four hours.

dysentery. In all obstinate fluxes of the belly, the cure must be attempted, by first cleansing the stomach and bowels with gentle vomits and purges; afterwards such a diet as has a tendency to heal and strengthen the bowels, with opiates and astringent medicines, will generally complete the cure.

The same observation holds with respect to a TENESMUS, or frequent desire of going to stool. This disease resembles the dysentery so much, both in its symptoms and method of cure, that we think it needless to insist upon it.

CHAP. XXVI.

HEAD-ACH. *(Cephalalgia.)*

ACHES and pains proceed from very different causes, and may affect any part of the body; but we shall point out those only which occur most frequently, and are attended with the greatest danger.

When the head-ach is slight, and affects a particular part of the head only, it is called *cephalalgia;* when the whole head is affected, *cephalæa;* and when one side only, *hemicrania.* A fixed pain in the forehead, which may be covered with the end of the thumb, is called the *clavis hystericus.*

There are also other distinctions. Sometimes the pain is internal, sometimes external; sometimes it is an original disease, and at other times only symptomatic. When the head-ach proceeds from a hot bilious habit, the pain is very acute and throbbing, with a considerable heat of the part affected. When from a cold phlegmatic habit, the patient complains of a dull heavy pain, and has a sense of coldness in the part. This kind of head-ach is sometimes attended with a degree of stupidity or folly.

CAUSES.—Whatever obstructs the free circulation of the blood through the vessels of the head, may occasion a head-ach. In persons of a full habit, who abound with blood, the head-ach often proceeds from the suppression of customary evacuations; as bleeding at the nose, sweating of the feet, &c. It may likewise proceed from any cause that determines a great flux of blood towards the head; as coldness of the extremities, or hanging down the head for a long time. Whatever prevents the return of the blood from the head, will likewise occasion a head-ach; as looking long obliquely at any object, wearing any thing tight about the neck, a new hat, or the like.

When a head-ach proceeds from the stoppage of a running at the nose, there is a heavy, obtuse, pressing pain in the fore-part of the head, in which there seems to be such a weight, that the patient can scarcely hold it up. When it is occasioned by the caustic matter of the venereal disease, it generally affects the skull, and often produces a *caries* of the bones.

Sometimes the head-ach proceeds from the repulsion or retrocession of the gout, the erysipelas, the small-pox, measles, itch, or

other eruptive diseases. What is called a *hemicrania* generally proceeds from crudities or indigestion. Inanition, or emptiness. will also occasion head-achs. I have often seen instances of this in nurses who gave suck too long, or who did not take a sufficient quantity of solid food.

There is likewise a most violent, fixed, constant, and almost intolerable head-ach, which occasions great debility both of body and mind, prevents sleep, destroys the appetite, causes a *vertigo*, dimness of sight, a noise in the ears, convulsions, epileptic fits, and sometimes vomiting, costiveness, coldness of the extremities, &c.

The head-ach is often symptomatic in continual and intermitting fevers, especially quartans. It is likewise a very common symptom in hysteric and hypochondriac complaints.

When a head-ach attends an acute fever, with pale urine, it is an unfavourable symptom. In excessive head-achs, coldness of the extremities is a bad sign.

When the disease continues long, and is very violent, it often terminates in blindness, apoplexy, deafness, *vertigo*, palsy, or epilepsy.

In this disease the cool regimen in general is to be observed. The diet ought to consist of such emollient substances as will correct the acrimony of the humours, and keep the body open; as apples boiled in milk, spinnage, turnips, and such like. The drink ought to be diluting; as barley-water, infusions of mild mucilaginous vegetables, decoctions of the sudorific woods, &c. The feet and legs ought to be kept warm, and frequently bathed in lukewarm water; the head should be shaved, and bathed with water and vinegar. The patient ought, as much as possible, to keep in an erect posture, and not to lie with his head too low.

When the head-ach is owing to excess of blood, or a hot bilious constitution, bleeding is necessary. The patient may be bled in the jugular vein, and the operation repeated if there be occasion. Cupping also, or the application of leeches to the temples, and behind the ears, will be of service; afterwards a blistering-plaster may be applied to the neck, behind the ears, or to any part of the head that is most affected. In some cases it will be proper to blister the whole head. In persons of a gross habit, issues, or perpetual blisters, will be of service. The body ought likewise to be kept open by gentle laxatives.

But when the head-ach proceeds from a copious vitiated *serum*, stagnating in the membranes, either within or without the skull, with a dull, heavy, continual pain, which will neither yield to bleeding nor gentle laxatives, then more powerful purgatives are necessary, as pills made of aloes, resin of jalap, or the like. It will also be necessary in this case to blister the whole head, and to keep the back-part of the neck open for a considerable time by a perpetual blister.

When the head-ach is occasioned by the stoppage of a running at the nose, the patient should frequently smell to a bottle of volatile salts; he may likewise take snuff, or any thing that will irritate the nose, so as to promote a discharge from it; as the herb mastich, ground ivy, &c.

A *hemicrania*, especially a periodical one, is generally owing to

a foulness of the stomach, for which gentle vomits must be administered, as also purges of rhubarb. After the bowels have been sufficiently cleared, chalybeate waters, and such bitters as strengthen the stomach, will be necessary. A periodical head-ach has been cured by wearing a piece of flannel over the forehead during the night.

When the head-ach arises from a vitiated state of the humours, as in the scurvy and venereal disease, the patient, after proper evacuations, must drink freely of the decoction of woods, or the decoction of sarsaparilla, with raisins and liquorice. These, if duly persisted in, will produce very happy effects. When a collection of matter is felt under the skin, it must be discharged by an incision, otherwise it will render the bone carious.

When the head-ach is so intolerable as to endanger the patient's life, or is attended with continual watching and delirium, recourse must be had to opiates. These, after proper evacuations by clysters, or mild purgatives, may be applied both externally and internally. The affected part may be rubbed with Bate's anodyne balsam, or a cloth dipped in it may be applied to the part. The patient may, at the same time, take twenty drops of the tincture of opium, in a cup of valerian or penny-royal tea, twice or thrice a-day. This is only to be done in case of extreme pain. Proper evacuations ought always to accompany and follow the use of opiates.*

When the patient cannot bear the loss of blood, his feet ought frequently to be bathed in lukewarm water, and well rubbed with a coarse cloth. Cataplasms with mustard or horse-radish ought likewise to be applied to them. This course is peculiarly necessary when the pain proceeds from a gouty humour affecting the head.

When the head-ach is occasioned by great heat, hard labour, or violent exercise of any kind, it may be allayed by cooling medicines; as the saline draughts with nitre, and the like.

A little æther, dropt into the palm of the hand, and applied to the forehead, will sometimes remove a violent head-ach.

Of the Tooth-ach. *(Odontalgia.)*

This disease is so well known, that it needs no description. It has great affinity with the rheumatism, and often succeeds pains of the shoulders and other parts of the body.

It may proceed from obstructed perspiration, or any of the other causes of inflammation. I have often known the tooth-ach occasioned by neglecting some part of the usual coverings of the head, by sitting with the head bare near an open window, or exposing it to a draught of cold air. Food or drink taken either too hot or too cold, is very hurtful to the teeth. Great quantities of sugar, or other sweat-meats, are likewise hurtful. Nothing is more destructive to the teeth than cracking nuts, or chewing any kind of hard substances. Picking the teeth with pins, needles, or any

* When the pain is very violent, and does not yield to small doses of laudanum, the quantity may be increased. I have known a patient in extreme pain take three hundred drops in twenty-four hours; but such doses ought only to be administered by a person of skill.

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Few applications give more relief in the tooth-ach than blistering-plasters. These may be applied between the shoulders; but they have the best effect when put behind the ears, and made so large as to cover a great part of the lower jaw. Burning the nerve within the affected tooth with a hot iron, has frequeutly given ease; but this operation ought to be performed with care.

After all, when a tooth is carious, it is often impossible to remove the pain without extracting it; and as a spoiled tooth never becomes sound again, it is prudent to draw it soon, lest it should affect the rest. Tooth-drawing, like bleeding, is very much practised by mechanics, as well as persons of the medical profession. The operation, however, is not without danger, and ought always to be performed with care. A person unacquainted with the structure of the parts, will be in danger of hurting the jaw-bone, or of drawing a sound tooth instead of a rotten one. This, however, may always be prevented by the operator striking upon the teeth with any piece of metal, as this never fails to excite the pain in the carious tooth.

When the tooth-ach returns periodically, and the pain chiefly affects the gums, it may be cured by the bark.

Some pretend to have found great benefit in the tooth-ach, from the application of an artificial magnet to the affected tooth. We shall not attempt to account for its mode of operation, but if it be found to answer, though only in particular cases, it certainly deserves a trial, as it is attended with no expense, and cannot do any harm. Electricity has likewise been recommended, and particular instruments have been invented for sending a shock through the affected tooth.

Persons who have returns of the tooth-ach at certain seasons, as spring and autumn, might often prevent it by taking a purge at these times.

Keeping the teeth clean has no doubt a tendency to prevent the tooth-ach. The best method of doing this is to wash them daily with salt and water, a decoction of the bark, or with cold water alone. All brushing and scraping of the teeth is dangerous, and, unless it be performed with great care, does mischief.

Ear-ach. *(Otalgia.)*

This disorder chiefly affects the membrane which lines the inner cavity of the ear, called the *meatus auditorius*. It is often so violent as to occasion great restlessness, anxiety, and even delirium. Sometimes epileptic fits, and other convulsive disorders, have been brought on by extreme pain in the ear.

The ear-ach may proceed from any of the causes which produce inflammation. It often proceeds from a sudden suppression of the perspiration, or from the head being exposed to cold when covered with sweat. It may also be occasioned by worms or other insects getting into the ear, or being bred there; or from any hard body sticking in the ear. Sometimes it proceeds from the translation of morbific matter to the ear. This often happens in the decline of malignant fevers, and occasions deafness, which is generally reckoned a favourable symptom.

When the ear-ach proceeds from insects, or any hard body sticking in the ear, every method must be taken to remove them as soon as possible. The membranes may be relaxed by dropping into the ear oil of sweet almonds, or olive oil. Afterwards the patient should be made to sneeze, by taking snuff, or some strong sternutatory. If this should not force out the body, it must be extracted by art. I have seen insects, which had got into the ear, come out of their own accord upon pouring in oil.

When the pain of the ear proceeds from inflammation, it must be treated like other topical inflammations, by a cooling regimen, and opening medicines. Bleeding at the beginning, either in the arm or jugular vein, or cupping in the neck, will be proper. The ear may likewise be fomented with steams of warm water; or flannel bags filled with boiled mallows and camomile-flowers may be applied to it warm; or bladders filled with warm milk and water. An exceedingly good method of fomenting the ear is to apply it close to the mouth of a jug filled with warm water, or a strong decoction of camomile-flowers.

The patient's feet should be frequently bathed in lukewarm water, and he ought to take small doses of nitre and rhubarb, viz. a scruple of the former, and ten grains of the latter three times a-day. His drink may be whey, or decoction of barley and liquorice, with figs or raisins. The parts behind the ear ought frequently to be rubbed with camphorated oil, or a little of the volatile liniment, and a few drops of the camphorated spirit of wine may be put into the ear with wool or cotton. A blister behind the ear, if applied early, will sometimes remove this complaint.

When the inflammation cannot be discussed, a poultice of bread and milk, or roasted onions may be applied to the ear, and frequently renewed, till the abscess breaks, or can be opened. Afterwards the humours may be diverted from the part by gentle laxatives, blisters, or issues; but the discharge must not be suddenly dried up by any external application.

Ear-ach sometimes continues for some time without any apparent inflammation, and is then frequently removed by filling the ear with cotton or wool, moistened with tincture of opium or ether, or even with warm oil or water. Pain in the ear is also sometimes the consequence of a diseased tooth, in which case the ether should be applied to the cheek over the suspected tooth, or a grain of opium with a little camphor, or half a grain of the extract of belladonna may be applied to the tooth itself.

Pain of the Stomach, &c. *(Gastrodynia.)*

This may proceed from various causes, as indigestion, wind, the acrimony of the bile; sharp, acrid, or poisonous substances taken into the stomach, &c. It may likewise be occasioned by worms; the stoppage of customary evacuations; or from a translation of gouty matter to the stomach, the bowels, &c. heart-burn, flatulency, and other dyspeptic symptoms.

Women in the decline of life are very liable to pains of the stomach and bowels, especially such as are afflicted with hysteric complaints. It is likewise very common to hypochondriac men of a

sedentary and luxurious life. In such persons it often proves so extremely obstinate as to baffle all the powers of medicine.

When the pain of the stomach is most violent after eating, there is reason to suspect that it proceeds from some fault either in the digestion or the food. In this case the patient ought to change his diet, till he finds what kind of food agrees best with his stomach, and should continue chiefly to use it. If a change of diet does not remove the complaint, the patient may take a gentle vomit, and afterwards a dose or two of rhubarb. He ought likewise to take an infusion of camomile-flowers, or some other stomachic bitter, either in wine or water. I have often known exercise remove this complaint, especially sailing, or a long journey on horseback, or in a carriage.

When a pain of the stomach proceeds from flatulency, the patient is constantly belching up wind, and feels an uneasy distention of the stomach after meals. This is a most deplorable disease, and is seldom thoroughly cured. In general, the patient ought to avoid all windy diet, and every thing that sours on the stomach, as greens, roots, &c. This rule, however, admits of some exceptions. There are many instances of persons very much troubled with wind, who have received great benefit from eating parched peas, though that grain is generally supposed to be of a windy nature.*

This complaint may likewise be greatly relieved by labour, especially digging, reaping, mowing, or any kind of active employment by which the bowels are alternately compressed and dilated. The most obstinate case of this kind I ever met with, was in a person of a sedentary occupation, whom I advised, after he had tried every kind of medicine in vain, to turn gardener; which he did, and has ever since enjoyed good health.

When a pain of the stomach is occasioned by the swallowing of acrid or poisonous substances, they must be discharged by vomit: this may be excited by butter, oils, or other soft things, which sheath and defend the stomach from the acrimony of its contents.

When a pain of the stomach proceeds from a translation of gouty matter, warm cordials are necessary, as generous wines, French brandy, &c. Some have drank a whole bottle of brandy or rum in this case in a few hours, without being in the least intoxicated, or even feeling the stomach warmed by it. It is impossible to ascertain the quantity necessary upon these occasions. This must be left to the feelings and discretion of the patient. The safer way however is, not to go too far. When there is an inclination to vomit, it may be promoted by drinking an infusion of camomile-flowers, or *carduus benedictus.*

If a pain of the stomach proceed from the stoppage of customary evacuations, bleeding will be necessary, especially in sanguine and very full habits. It will likewise be of use to keep the body gently open by mild purgatives; as rhubarb or senna. When this disease affects women in the decline of life, after the stoppage of the *menses*, making an issue in the leg or arm will be of peculiar service.

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* These are prepared by steeping or soaking peas in water, and afterwards drying them in a pot or kiln till they burst. They may be used at pleasure.

When the disease is occasioned by worms, they must be destroyed, or expelled, by such means as are recommended in the following section.

When the stomach is greatly relaxed, and the digestion bad, which often occasion flatulencies, the elixir of vitriol will be of singular service. Fifteen or twenty drops of it may be taken in a glass of wine or water twice or thrice a-day.

Persons afflicted with flatulency are generally unhappy unless they be taking some purgative medicines; these, though they may give immediate ease, tend to weaken and relax the stomach and bowels, and consequently increase the disorder. The best method is to mix purgatives and stomachics together. Equal parts of Peruvian bark and rhubarb may be infused in brandy or wine, and taken in such quantity as to keep the body gently open.

In heartburn, water-brash, &c. the oxide of bismuth is a remedy which has been employed in a variety of cases with considerable advantage. The proper dose is from three to ten grains, with about twenty-five grains of gum-tragacanth, repeated three times a-day. It will be safer, however, to commence with only about three grains, and increase it gradually.

Pain of the stomach proceeds from such a variety of causes, that it is difficult to prescribe a medicine for it. The treatment must of course be suited to the nature of the complaint. But I have for some years very generally recommended a plaster, which seldom fails to give relief. Its basis may be any kind of adhesive plaster spread upon leather, to which, while warm, a drachm and a half, or two drachms, of powdered opium may be added. It should be large enough to cover nearly the whole region of the stomach, and should be suffered to remain on as long as it will stick.*

CHAP. XXVII.

WORMS. *(Vermes.)*

These are chiefly of three kinds, viz. the *tænia*, or tape-worm; the *teres*, or round and long worm; and the *ascarides*, or round and short worm. There are many other kinds of worms found in the human body; but as they proceed, in a great measure, from similar causes, have nearly the same symptoms, and require almost the same method of treatment as these already mentioned, we shall not spend time in enumerating them.

The tape-worm is white, very long, and full of joints. It is generally bred either in the stomach or small intestines. The round and long worm is likewise bred in the small guts, and sometimes in the stomach. The round and short worms commonly lodge in the *rectum*, or what is called the end gut, and occasion a disagreeable itching about the seat.

The long round worms occasion squeamishness, vomiting, a dis-

* Pain of the stomach is frequently relieved by drinking a cup or two of water as hot as it can be swallowed. This remedy is always safe, and will frequently be found effectual. Ed.

agreeable breath, gripes, looseness, swelling of the belly, swoonings, loathing of food, and at other times a voracious appetite, a dry cough, convulsions, epileptic fits, and sometimes a privation of speech. These worms have been known to perforate the intestines, and get into the cavity of the belly. The effects of the tape-worm are nearly the same with those of the long and round, but rather more violent.

Andry says, the following symptoms particularly attend the *solium*, which is a species of the tape-worm, viz. swoonings, privation of speech, and a voracious appetite. The round worms called *ascarides*, besides an itching of the *anus*, cause swoonings, and tenesmus, or an inclination to go to stool.

Causes.—Worms may proceed from various causes; but they are seldom found except in weak and relaxed stomachs, where the digestion is bad. Sedentary persons are more liable to them than the active and laborious. Those who eat great quantities of unripe fruit, or who live much on raw herbs and roots, are generally subject to worms. There seems to be an hereditary disposition in some persons to this disease. I have often seen all the children of a family subject to worms of a particular kind. They seem likewise frequently to be owing to the nurse. Children of the same family nursed by one woman have often worms, when those nursed by another have none.

Symptoms.—The common symptoms of worms are, paleness of the countenance, and, at other times, an universal flushing of the face; itching of the nose (this, however, is doubtful, as children pick their noses in all diseases;) starting, and grinding of the teeth in sleep; swelling of the upper lip; the appetite sometimes bad, at other times quite voracious; looseness; a sour or stinking breath; a hard swelled belly; great thirst; the urine frothy, and sometimes of a whitish colour; griping, or colic pains; an involuntary discharge of *saliva*, especially when asleep; frequent pains of the side, with a dry cough, and unequal pulse; palpitations of the heart; swoonings, drowsiness, cold sweats, palsy, epileptic fits, with many other unaccountable nervous symptoms, which were formerly attributed to witchcraft, or the influence of evil spirits. Small bodies in the excrements resembling melon or cucumber-seeds are symptoms of the tape-worm. There is no certain symptom of worms but passing them.

I lately saw some very surprising effects of worms in a girl about five years of age, who used to lie for whole hours as if dead. She at last expired, and upon opening her body, a number of the *teres*, or long round worms, were found in her intestines, which were considerably inflamed; and what anatomists call an *intus-susceptio*, or the involving of one part of the gut within another, had taken place in no less than four different parts of the intestinal canal.*

* That worms exist in the human body there can be no doubt, and that they must sometimes be considered as a disease, is equally certain; but this is not the case so often as people imagine. The idea that worms occasion many diseases, gives an opportunity to the professed worm-doctors of imposing on the credulity of mankind, and

MEDICINE.—Though numberless medicines are extolled for expelling and killing worms,* yet no disease more frequently baffles the physician's skill. In general, the most proper medicines for their expulsion are strong purgatives, and, to prevent their breeding, stomachic bitters, and now and then a glass of good wine.

The best purge for an adult is jalap and calomel. Five-and-twenty or thirty grains of the former, with six or seven of the latter, mixed in syrup, may be taken early in the morning for a dose. It will be proper that the patient keep the house all day, and drink nothing cold. The dose may be repeated once or twice a-week, for a fortnight or three weeks. On the intermediate days the patient may take a drachm of the filings of tin, twice or thrice a-day, mixed with syrup, honey, or treacle.

Those who do not choose to take calomel, may make use of the bitter purgatives; as aloes,† tincture of senna and rhubarb, &c.

Oily medicines are sometimes found beneficial for expelling worms. An ounce of salad oil and a table-spoonful of common salt may be taken in a glass of red port wine thrice a day, or oftener if the stomach will bear it; but the more common form of using oil is in clysters. Oily clysters, sweetened with sugar or honey, are very efficacious in bringing away the short round worms called *ascarides*,‡ and likewise the *teres*.

The Harrowgate water is an excellent medicine for expelling worms, especially the *ascarides*. As this water is impregnated with sulphur, we may hence infer, that sulphur alone must be a good medicine in this case, which is found to be a fact. Many practitioners give flour of sulphur in very large doses, and with great success. It should be made into an electuary with honey or treacle, and taken in such quantity as to purge the patient.

Where Harrowgate water cannot be obtained, sea-water may be used, which is far from being a contemptible medicine in this case. If sea-water cannot be had, common salt dissolved in water may be drank. I have often seen this used by country-nurses with very good effect. Some flour of sulphur may be taken over-night, and the salt-water in the morning.

But worms, though expelled, will soon breed again, if the stomach remain weak and relaxed; to prevent which, we would recommend the Peruvian bark. Half a drachm of bark in powder may be taken in a glass of red port wine, three or four times a-day, after the above medicines have been used. Lime-water is likewise good for this purpose, or a table-spoonful of the chalybeate wine taken twice or thrice a-day. Infusions or decoctions of bitter herbs may likewise be drank; as the infusion of tansy, water trefoil, camomile flowers, tops of wormwood, the lesser centaury, &c.

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doing much mischief. They find worms in everycase, and liberally throw in their antidotes, which generally consist of strong drastic purges. I have known these given in delicate constitutions, to the destruction of the patient, where there was not the least symptom of worms.

* A medical writer of the present age has enumerated upwards of fifty British plants, all celebrated for killing and expelling worms.

† Take Powder of Common Aloes, 1 drm.
Water Gruel, thin, 10 oz.
Make a clyster—to be given occasionally.

‡ Take Mixture of Asafœtida, 3 oz.
Milk, 5 oz.
Make a clyster.

The above directions are intended for adults; but for children the medicines must be more agreeable, and in smaller doses. For a child of four or five years old, six grains of rhubarb, five of jalap, and two of calomel, may be mixed in a spoonful of syrup or honey, and given in the morning. The child should keep the house all day, and take nothing cold. This dose may be repeated twice a-week for three or four weeks. On the intermediate days, the child may take a scruple of powdered tin, and ten grains of æthiops mineral, in a spoonful of treacle, twice a-day. This dose must be increased or diminished, according to the age of the patient, or the form annexed below.*

Bisset says, the great bastard black hellebore, or *bear's foot*, is a most powerful vermifuge for the long round worms. He orders the decoction of about a drachm of the green leaves, or about fifteen grains of the dried leaves in powder, for a dose to a child between four and seven years of age. This dose is to be repeated two or three times. He adds, that the green leaves made into a syrup with coarse sugar is almost the only medicine he has used for round worms for three years past. Before pressing out the juice, he moistens the bruised leaves with vinegar, which corrects the medicine. The dose is a tea-spoonful at bed-time, and one or two next morning.

I have frequently known those big bellies, which in children are commonly reckoned a sign of worms, quite removed by giving them white soap in their pottage, or other food. Tansy, garlic, and rue, are all good against worms, and may be used various ways. We might here mention many other plants, both for external and internal use, as the cabbage-bark, &c., but think the filings of tin with æthiops mineral, and the purges of rhubarb and calomel, are more to be depended on.

Ball's purging vermifuge powder is a very powerful medicine. It is made of equal parts of rhubarb, scammony, and calomel, with as much double-refined sugar as is equal to the weight of all the other ingredients. These must be well mixed together, and reduced to a fine powder. The dose for a child is from ten grains to twenty, once or twice a-week. An adult may take a drachm for a dose.

A powder for the tape-worm, resembling this, called Madame Nouffer's powder (the name of the proprietor,)† was long kept a secret on the Continent: it was lately purchased by the French king.

Parents who would preserve their children from worms ought to allow them plenty of exercise in the open air; to take care that their food be wholesome and sufficiently solid; and, as far as possible, to prevent their eating raw herbs, roots, or green trashy fruits. It will not be amiss to allow a child who is subject to

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* Take Powdered Tin, 3 ounces.
Confection of Hips, 3 drachms.
Simple Syrup, enough to make an electuary dose of the size of a nutmeg, in the morning.

† Take Male Fern Root, in Powder. 2 to 3 drms.
Mint Water, 4 ounces.
To be taken fasting in the morning, and two hours after, the following bolus:
Take Submuriate of Mercury, 5 or 6 grs.
Camboge, in Powder, 6 to 10 grs.
Drinking often a cupful of the infusion of green tea.

worms a glass of red wine after meals; as every thing that braces and strengthens the stomach is good both for preventing and expelling these vermin.*

In order to prevent any mistake of what I have here said in favour of *solid* food, it may be proper to observe, that I only made use of that word in opposition to *slops* of every kind; not to advise parents to cram their children with meat, two or three times a-day. This should only be allowed at dinner, and in moderate quantities, or it would create, instead of preventing worms; for there is no substance in nature which generates so many worms as the flesh of animals, when in a state of putrefaction. Meat, therefore, at the principal meal, should always be accompanied with plenty of good bread, and young, tender, and well-boiled vegetables, especially in the spring, when these are poured forth from the bosom of the earth in such profusion. They promote the end in view, by keeping the body moderately open, without the aid of artificial physic. The ripe fruits of autumn produce the same effect; and, from their cooling, antiputrescent qualities, are as wholesome as the unripe are pernicious.

I also very earnestly conjure parents not to take the alarm at every imaginary symptom of worms, and directly run for drugs to the quack, or apothecary. They should first try the good effects of proper diet and regimen, and never have recourse to medicines till after unequivocal proofs of the nature of the complaint. The danger of advertised nostrums is sufficiently pointed out and exemplified in the preceding note.

CHAP. XXVIII.

JAUNDICE. *(Icterus.)*

This disease is first observable in the white of the eye, which appears yellow. Afterwards the whole skin puts on a yellow appearance. The urine too is of a saffron hue, and dyes a white cloth, if put into it, of the same colour. There is likewise a species of this disease called the Black Jaundice.

Causes.—The immediate cause of the jaundice is an obstruction of the bile, from biliary calculi in the gall-bladder and its ducts; inspissated bile; spasmodic constriction of the ducts themselves; pressing from adjacent tumours; scirrhosity of the liver, &c. The remote or occasional causes are, the bites of poisonous animals, as the viper, mad dog, &c.; the bilious or hysteric colic; violent passions, as grief, anger, &c. Strong purges or vomits will likewise occasion the jaundice. Sometimes it proceeds from obstin-

* We think it necessary here to warn people of their danger who buy cakes, powders, and other worm medicines, at random, from quacks, and give them to their children without proper care. The principal ingredients in most of these medicines is mercury, which is never to be trifled with. I lately saw a shocking instance of the danger of this conduct. A girl who had taken a dose of worm-powder, bought of a travelling quack, went out, and perhaps was so imprudent as to drink cold water during its operation: she immediately swelled, and died on the following day, with all the symptoms of having been poisoned.

ate agues, or from that disease being prematurely stopped by astringent medicines. In infants it is often occasioned by the *meconium* not being sufficiently purged off. Pregnant women are very subject to it. It is likewise a symptom in several kinds of fever. Catching cold, or the stopping of customary evacuations, as the *menses*, the bleeding piles, issues, &c. will occasion the jaundice.

Symptoms.—the patient at first complains of excessive weariness, languor, and inactivity, and has great aversion to every kind of motion. His skin is dry, and he generally feels a kind of itching or pricking pain over the whole body. The stools are of a whitish or clay colour, and the urine, as was observed above, is yellow. The breathing is difficult, and the patient complains of an unusual load or oppression of the breast. There is a heat in the nostrils, a bitter taste in the mouth, loathing of food, sickness of the stomach, vomiting, flatulency, and other symptoms of indigestion.

If the patient be young, and the disease complicated with no other malady, it is seldom dangerous; but in old people, where it continues long, returns frequently, or is complicated with the dropsy or hypochondriac symptoms, it generally proves fatal. The black jaundice is more dangerous than the yellow.

Regimen.—The diet should be cool, light, and diluting, consisting chiefly of ripe fruits and mild vegetables; as apples boiled or roasted, stewed prunes, preserved plums, boiled spinnage, &c. Veal or chicken-broth, with light bread, are likewise very proper. Many have been cured by living almost wholly for some days on raw eggs. The drink should be buttermilk, whey sweetened with honey, or decoctions of cool opening vegetables; as marsh-mallow roots, with liquorice, &c.

The patient should take as much exercise as he can bear, either on horseback or in a carriage; walking, running, and even jumping, are likewise proper, provided he can bear them without pain, and there be no symptoms of inflammation. Patients have been often cured of this disease by a long journey, after medicines have proved ineffectual.

Amusements are likewise of great use in the jaundice. The disease is often occasioned by a sedentary life, joined to a dull melancholy disposition. Whatever therefore tends to promote the circulation, and to cheer the spirits, must have good effect, as dancing, laughing, singing, &c.

Medicine.—The cure of jaundice, unpromising as at times it may appear, is nevertheless to be attempted, first, by restoring the interrupted passage of the bile through the duct; secondly, by carrying it off by the intestines; and, thirdly, by relieving the particular symptoms. Whether the passage of the bile be obstructed by biliary concretions, or by spasmodic constriction of the ductus communis choledochus, the same plan nearly must be adopted.

If the patient be young, of a full sanguine habit, and complains of pain in the right side, about the region of the liver, bleeding will

be necessary. After this an emetic must be administered; and, if the disease proves obstinate, it may be repeated once or twice. No medicines are more beneficial in the jaundice than emetics, especially where it is not attended with inflammation. Half a drachm of ipecacuanha in powder will be a sufficient dose for an adult. It may be wrought off with weak camomile-tea, or lukewarm water. The body must likewise be kept open by taking a sufficient quantity of Castile soap, or the annexed pills.*

Fomenting the parts about the region of the stomach and liver, and rubbing them with a warm hand or flesh-brush, are likewise beneficial; but it is still more so for the patient to sit in a bath of warm water up to the breast. He ought to do this frequently, and should continue in it as long as his strength will permit.

Emetics, purges, fomentations, and exercise, will seldom fail to cure the jaundice when it is a simple disease; and when complicated with the dropsy, a scirrhous liver, or other chronic complaints, it is hardly to be cured by any means.

Should jaundice have arisen as a consequence of an inflammatory affection of the liver, the usual means adopted in such cases of bringing it to a resolution must be early put in practice, viz. venesection, topical bleedings, cooling saline purgatives, and the application of a blister over the part, which ought to be renewed in succession if the disease does not abate: but where these have either failed or been neglected, and it has proceeded on to a chronic state of enlargement, or schirrosity, thereby pressing on the biliary ducts, mercury, from time to time, must be used both internally and externally, as advised in chronic inflammation of the liver.

In cases of this nature, and in those of jaundice arising from biliary concretions, neutral salts† have been much employed, together with alkalis and other deobstruents. In jaundice, soap has indeed been looked upon as a kind of specific, and is therefore much employed, and in considerable quantities. Hemlock has often been used, and, in combination with mercury and cinchona, it might be rendered more efficacious.‡

Costiveness is to be removed by means of some gentle laxative, as here advised.§

I have likewise known Harrowgate sulphur-water cure jaundice of very long standing. It should be used for some weeks, and the patient must both drink and bathe.

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* Take Powdered Rhubarb, 1 scruple.
Hard Soap, ½ drachm.
Submuriate of Mercury, 12 grains.
Syrup, a sufficient quantity.—Divide the mass into 24 pills; two or three of which are to be taken at bed time.

† Take Compound Infusion of Gentian, 1½ ounce.
Tincture of Bark, 2 drachms.
Tartrate of Potash, 15 grains.
Powder of Rhubarb, 5 grains.
Make a draught to be taken morning, noon, and evening.

‡ Take Extract of Bark,
—— of Hemlock,
of each, 2 drachms.
Simple Syrup, enough to form the mass, to be divided in 60 pills, of which three to twelve are to be taken daily.

or

Take Mercurial Pill, ½ drachm.
Extract of Hemlock, 2 drachms.
Make 50 pills, of which take three morning and night.

§ Take Socotrine Aloes, 1½ drachm.
Hard Soap, 1 drachm.
Subcarbonate of Potash, ½ drachm.
Syrup of Buckthorn, enough to make the mass into 36 pills, of which three are to be taken at bed time.

Persons subject to the jaundice ought to take as much exercise as possible, and to avoid all heating and astringent aliments.

The two last directions are of far greater importance than some people may imagine. In fact, taking exercise, and keeping the body open, are the only assured and rational means of removing a complaint which generally arises from an obstruction of the biliary ducts. I knew a celebrated physician who was subject to this disease, and who, whenever it attacked him, mounted his horse, set out on a journey, and never returned till he was well. For my own part, I should place more reliance on the efficacy of such method, than on the whole catalogue of near a hundred specifics mentioned by the late Doctor Short of Sheffield, though I have known instances where one of them, the decoction of hemp-seed, as already intimated, was found very beneficial.

CHAP. XXIX.

DROPSY. *(Hydrops.)*

The dropsy is a preternatural swelling of the whole body, or some part of it, occasioned by a collection of watery humour. It is distinguished by different names, according to the part affected, as *anasarca*, or a collection of water under the cellular membrane; *ascites*, or a collection of water in the belly; *hydrops pectoris*, or dropsy of the breast; *hydrocephalus*, or dropsy of the brain, &c.

Causes.—The dropsy is often owing to an hereditary disposition. It may likewise proceed from drinking ardent spirits, or other strong liquors. It is true almost to a proverb, that great drinkers die of a dropsy. The want of exercise is also a very common cause of the dropsy. Hence it is justly reckoned among the diseases of the sedentary. It often proceeds from excessive evacuations, as frequent and copious bleedings, strong purges often repeated, frequent salivations, &c. The sudden stoppage of customary or necessary evacuations, as the *menses*, the hæmorrhoids, alvine fluxes, &c. may likewise cause a dropsy.

I have known the dropsy occasioned by drinking large quantities of cold, weak watery liquor, when the body was heated by violent exercise. A low, damp, or marshy situation is likewise a frequent cause of it. Hence it is a common disease in moist, flat, fenny countries. It may also be brought on by a long use of poor watery diet, or of viscous aliment that is hard of digestion. It is often the effect of other diseases, as the jaundice, a scirrhus of the liver, a violent ague of long continuance, scarlet fever, diarrhœa, dysentery, empyema, or a consumption of the lungs. In short, whatever obstructs the perspiration, or prevents the blood from being duly prepared, may occasion a dropsy.

Symptoms.—*Anasarca* generally begins with a swelling of the feet and ancles towards night, which for some time disappears in the morning. In the evening the parts, if pressed with the finger,

will pit. The swelling gradually ascends, and occupies the trunk of the body, the arms, and the head. Afterwards the breathing becomes difficult, the urine is in small quantity, and the thirst great; the body is bound, and perspiration is greatly obstructed. To these succeed torpor, heaviness, a slow wasting fever, and a troublesome cough. This last is generally a fatal symptom, as it shows that the lungs are affected.

In the *ascites*, besides the above symptoms, there is a swelling of the belly, and often a fluctuation, which may be perceived by striking the belly on one side, and laying the palm of the hand on the opposite. This may be distinguished from a *tympany* by the weight of the swelling, as well as by the fluctuation. When the *anasarca* and *ascites* are combined, the case is very dangerous. Even a simple *ascites* seldom admits of a radical cure. Almost all that can be done is, to let off the water by tapping, which seldom affords more than a temporary relief.

When the disease comes suddenly on, and the patient is young and strong, there is reason to hope for a cure, especially if medicine be given early. But if the patient be old, has led an irregular or a sedentary life, or if there be reason to suspect that the liver, lungs, or any of the viscera are unsound, there is great reason to fear that the consequences will prove fatal.

Regimen.—The patient must abstain, as much as possible, from all drink, especially weak and watery liquors,* and must quench his thirst with mustard whey, or acids, as juice of lemons, oranges, sorrel, or such like. His aliment ought to be dry, of a stimulating and diuretic quality, as toasted bread, the flesh of birds, or other wild animals, roasted; pungent and aromatic vegetables, as garlic, mustard, onions, cresses, horse-radish, rocambole, shalot, &c. He may also eat sea-biscuit dipped in wine or a little brandy; this is not only nourishing, but tends to quench thirst. Some have been actually cured of a dropsy by a total abstinence from all liquids, and living entirely upon such things as are mentioned above. If the patient must have drink, the Spa-water, or Rhenish wine, with diuretic medicines infused in it, are the best. Beer boiled with juniper-berries is much used as a diuretic drink by the German physicians.

Exercise is of the greatest importance in a dropsy. If the patient be able to walk, dig, or the like, he ought to continue these exercises as long as he can. If he be not able to walk or labour, he must ride on horseback, or in a carriage, and the more violent the motion so much the better, provided he can bear it. His bed ought to be hard, and the air of his apartments warm and dry. If he live in a damp country, he ought to be removed into a

* A total abstinence from drink has long been considered as highly necessary in all dropsical cases; but in several cases this practice has been carried too far without any benefit whatever. It seems, however, to have fallen considerably into disrepute, as large quantities of watery liquors, are now allowed, where diuretics, but more particularly the supertartrate of potash, are given. Indeed, this mode of treating dropsy is far more rational than the former, as these medicines can hardly be carried to the kidneys without being accompanied with a large portion of water. When, upon a fair trial, the quantity of urine is not found to be increased by drinking water or other aqueous fluids, their use may in that case be discontinued.

dry one, and, if possible, into a warm climate. In a word, every method should be taken to promote the perspiration, and to brace the solids. For this purpose it will likewise be proper to rub the patient's body two or three times a-day with a hard cloth, or a flesh-brush; and he ought constantly to wear flannel next his skin.

In the treatment of dropsy, the attention should be primarily directed to ascertain whether the disease be idiopathic or symptomatic; that is, whether it be an original one, or whether it prevail as a symptom of some other; as by removing the cause we shall often be enabled to remove the effect also, and thus perform a cure. For example, should dropsy have arisen as a consequence of intemperance, a free use of spirituous liquors, exposure to a moist atmosphere, or having had recourse to large evacuations, particularly bleeding; or if it have proceeded from long continued intermittent fevers, obstructions in the abdominal or thoracic viscera, &c.; the removal of these will be the first indications of cure. The next will be to evacuate the serous fluid already collected; and to restore the tone of the system, and strengthen the constitution generally.

Medical Treatment.—If the patient be young, his constitution good, and the disease has come on suddenly, it may generally be removed by strong emetics, brisk purges, and such medicines as promote a discharge by perspiration and urine. For an adult, half a drachm of ipecacuanha in powder, and half an ounce of oxymel of squills, will be a proper vomit. This may be repeated as often as is found necessary, three or four days intervening between the doses; or of the sulphate of copper as here advised, as having less tendency to exhaust than any other commonly used. The patient must not drink much after taking the vomit, otherwise he destroys its effects. A cup or two of camomile-tea will be sufficient to work it off.

Between each vomit, on one of the intermediate days, the patient may take the following purge: Jalap in powder half a drachm, cream of tartar, two drachms, calomel, six grains. These may be made into a bolus with a little syrup of pale roses, and taken early in the morning. The less the patient drinks after it the better. If he be much griped, he may now and then take a cup of chicken-broth.

The patient may likewise take every night at bed-time the following bolus:—To four or five grains of camphor add one grain of opium, and as much syrup of orange-peel as is sufficient to make them into a bolus. This will generally promote a gentle sweat, which should be encouraged by drinking now and then a small cup of wine-whey, with a tea-spoonful of the spirits of hartshorn in it. A tea-cupful of the following diuretic infusion may likewise be taken every four or five hours through the day:—Take juniper-berries, mustard-seed, and horse-radish, of each half an ounce, ashes of broom, half a pound; infuse them in a quart of Rhenish wine or strong ale for a few days, and afterwards strain off the liquor. Such as cannot take this infusion, may use the decoction of seneka-root, which is both diuretic and sudorific. I have known an obstinate *anasarca* cured by an infusion of the ashes of broom in wine.

The above course will often cure an incidental dropsy, if the constitution be good; but when the disease proceeds from a bad habit, or an unsound state of the viscera, strong purges and vomits are not to be ventured upon. In this case the safer course is to palliate the symptoms by the use of such medicines as promote the secretions, and to support the patient's strength by warm and nourishing cordials.

The secretion of urine may be greatly promoted by nitre. Brookes says, he knew a young woman who was cured of a dropsy by taking a drachm of nitre every morning in a draught of ale, after she had been given over as incurable. The powder of squills is likewise a good diuretic. Six or eight grains of it, with a scruple of nitre, may be given twice a-day in a glass of strong cinnamon-water. Ball says, a large spoonful of unbruised mustard-seed taken every night and morning, and drinking half an English pint of the decoction of the tops of green broom after it, has performed a cure after other powerful medicines had proved ineffectual.

I have sometimes seen good effects from cream of tartar in this disease.* It promotes the discharges by stool and urine, and will at least palliate, if it does not perform a cure. The patient may begin by taking an ounce every second or third day, and may increase the quantity to two or even three ounces, if the stomach will bear it. This quantity is not, however, to be taken at once, but divided into three or four doses.

To promote perspiration, the patient may use the decoction of seneka-root, as directed above; or he may take two table-spoonsful of the solution of acetated ammonia (Mindererus's spirit) in a cup of wine-whey three or four times a-day. To promote a discharge of urine, the following infusion of the London hospitals will likewise be beneficial:—

Take of zedoary-root two drachms; dried squills, rhubarb, and juniper-berries bruised, of each a drachm; cinnamon in powder, three drachms; subcarbonate of potash, a drachm and a half; infuse in an English pint and a half of old hock wine, and when fit for use, filter the liquor. A wine-glass of it may be taken three or four times a-day; or, the subjoined bolus.†

As an active diuretic, the foxglove has been recommended in dropsy: but should it not answer within the first fortnight, as is not unfrequently the case, that where one remedy of this class fails another succeeds, the best way will be to substitute some other for it. It may be given in infusion, saturated tincture, or combined in the form of powder with other diuretics, as squills, cream of tartar, &c. in any of the eligible forms here advised.‡

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* Take Cream of Tartar, 3 drachms.
Gamboge, in Powder, 2 grains.
Powdered Nutmeg, grs. x.
Make a powder.

or

Take Cream of Tartar, 1 drachm.
Powder of Wild Cucumber, 1 or 2 grains.
Compound powder of Cinnamon, 5 grains.
Mix them for a dose.

† Take Camphor, 5 grains.
Antimonial Powder, 2 grains.
Aromatic Confection, 10 grains.
Make a bolus, to be taken at bed-time.

‡ Take of Purple Foxglove, 6 drachms.
Compound Tincture of Cardamoms, 2 drachms.
Spirit of Nitric Ether, 1 drm.
Mix for a draught, to be taken twice a-day.

or

Take Cream of Tartar, 2 drachms.
Compound powder of Cinnamon, 5 grains.

In the *anasarca* it is usual to scarify the feet and legs. By this means the water is often discharged; but the operator must be cautious not to make the incisions too deep; they ought barely to pierce through the skin, and especial care must be taken, by spirituous fomentations and proper digestives, to prevent a gangrene.*

In an *ascites*, when the disease does not evidently and speedily give way to purgative and diuretic medicines, the water ought to be let off by tapping. This is a very simple and safe operation, and will often succeed, if it were performed in due time; but if it be delayed till the humours are vitiated, or the bowels spoiled, by long soaking in water, it can hardly be expected that any permanent relief will be procured.†

After the evacuation of the water, the patient is to be put on a course of strengthening medicines; as the Peruvian bark; the elixir of vitriol; warm aromatics, with a due proportion of rhubarb, infused in wine, and such like. His diet ought to be dry and nourishing, such as is recommended in the beginning of the chapter; and he should take as much exercise as he can bear without fatigue. He should wear flannel, or rather fleecy hosiery, next his skin, and make daily use of the flesh-brush.

We have classical authority of two thousand years' standing to say that the dropsy is an obstinate disease; not that the *incidental* dropsy is incurable, for I have often been so happy as to succeed in the treatment of it; but when the dropsy is accompanied with a scirrhous liver, or a worn-out constitution, very little is to be expected from medicine.

I had lately a singular instance of the efficacy of nitre in a case of dropsy. A young man, a cornet of dragoons, was dropsical all over, even his face not excepted. After several things had been tried without success, I showed him my quotation from Dr. Brookes, in this chapter. He was desirous of making an experiment with nitre, and took a drachm of it in a cup of warm ale, for some time once, and afterwards twice a-day, till he was cured.‡

Powder of Foxglove, 1 grain.
Mix for a powder, to be taken twice or three times a-day.

or

Take Cream of Tartar, 2 drachms.

Powder of Squills, 1 grain.
——— of Foxglove, ½ to 1 grain.
Make a powder, to be taken three times a-day.

* If it be desirable, as it generally is, to promote the discharge of the serous fluid, whether the skin be punctured or burst spontaneously, the best means of doing so, is by the application of a common cabbage-leaf, previously a little warmed. Ed.

† The very name of an operation is dreadful to most people, and they wish to try every thing before they have recourse to it. This is the reason why tapping so seldom succeeds to our wish. I had a patient who was regularly tapped once a month for several years, and who used to eat her dinner as well after the operation as if nothing had happened. She died at last rather worn out by age than by the disease.

‡ I have repeatedly succeeded in carrying off the effusion of dropsy, by the use of the following pills:—Take of elaterium, six grains; of calomel, twelve grains; rub them carefully together, and with a sufficient quantity of extract of gentian, form into twelve pills. Of these, one may be taken every hour, commencing early in the morning, till they *begin* to operate. I have known not only quarts but gallons of water evacuated by stool, after taking this medicine. During the operation, the patient's strength must be supported by strong beef-tea, with some wine in it. But even if successful in removing the watery accumulation by this means, a more difficult task still remains to the practitioner, that of preventing its return. Ed.

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The patient is always worse towards night, and easier in the morning. The paroxysms, however, generally grow milder every day, till at length the disease is carried off by perspiration, urine, and the other evacuations. In some patients this happens in a few days; in others, it requires weeks, and in some, months to finish the fit. Those whom age and frequent fits of the gout have greatly debilitated, seldom get free from it before the approach of summer, and sometimes not till it be pretty far advanced.

Regimen.—As there are no medicines yet known that will cure the gout, we shall confine our observations chiefly to regimen, both in and out of the fit.

In the fit, if the patient be young and strong, his diet ought to be thin and cooling, and his drink of a diluting nature; but where the constitution is weak, and the patient has been accustomed to live high, this is not a proper time to retrench. In this case he must keep nearly to his usual diet, and should take frequently a cup of strong negus, or a glass of generous wine. Wine-whey is a very proper drink in this case, as it promotes the perspiration without greatly heating the patient. It will answer this purpose better if a tea-spoonful of spirits of hartshorn be put into a cup of it twice a-day. It will likewise be proper to give at bed-time a tea-spoonful of the volatile tincture of *guaiacum*, in a large draught of warm wine-whey. This will greatly promote perspiration through the night: equally with any of those advised below.*

As the most safe and efficacious method of discharging the gouty matter is by perspiration, this ought to be kept up by all means, especially in the affected part. For this purpose the leg and foot should be wrapt in soft flannel, fur, or wool. The last is most readily obtained, and seems to answer the purpose better than any thing else. The people of Lancashire look upon wool as a kind of specific in the gout; they wrap a great quantity of it about the leg and foot affected, and cover it with a skin of soft dressed leather. This they suffer to continue for eight or ten days, and sometimes for a fortnight or three weeks, or longer, if the pain does not cease. I never knew any external application answer so well in the gout. I have often seen it applied when the swelling and inflammation were very great, with violent pain, and have found all these symptoms relieved by it in a few days. The wool which they use is generally greased, and carded or combed. They choose the softest which can be had, and seldom or never remove it till the fit be entirely gone off.

The patient ought likewise to be kept quiet and easy during the fit. Every thing that affects the mind disturbs the paroxysm, and tends to throw the gout upon the nobler parts. All external applications that repel the matter are to be avoided as death. They

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* Take Antimonial Powder, 2 grains.
Subcarbonate of Ammonia, 3 grs.
Confection of Roses, enough to make a bolus, to be taken every third or fourth hour.

or

Take Solution of Acetated Ammonia, 3 drachms.
Camphor Mixture, 12 drachms.
Solution of Tartarized Antimony, 12 drops.
Syrup of Orange-peel, 1 drachm.
Make a draught.

do not cure the disease, but remove it from a safer to a more dangerous part of the body, where it often proves fatal. A fit of the gout is to be considered as Nature's method of removing something that might prove destructive to the body, and all that we can do with safety, is to promote her intentions, and to assist her in expelling the enemy in her own way. Evacuations by bleeding, stool, &c. are likewise to be used with caution; they do not remove the cause of the disease, and sometimes by weakening the patient prolong the fit; but where the constitution is able to bear it, it will be of use to keep the body gently open by diet, or very mild laxative medicines.*

The wine of colchicum, or meadow saffron, given in the quantity of a fluid drachm, twice a-day, in any convenient vehicle, has been found a valuable remedy, both in gout and rheumatism; but to render this medicine more certain and efficacious, the bowels should be particularly attended to; and all food of a flatulent nature should be avoided.

Many things will indeed shorten a fit of the gout, and some will drive it off altogether; but few have yet been found which will do this with safety to the patient. In pain we eagerly grasp at any thing that promises immediate ease, and even hazard life itself for a temporary relief. This is the true reason why so many infallible remedies have been proposed for the gout, and why such numbers have lost their lives by the use of them.

When the pain, however, is very great, and the patient is restless, thirty or forty drops of laudanum, more or less, according to the violence of the symptoms, may be taken at bed-time. This will ease the pain, procure rest, promote perspiration, and forward the crisis of the disease.

After the fit is over, the patient ought to take a gentle dose or two of the bitter tincture of rhubarb, or some other warm stomachic purge. He should also drink a weak infusion of stomachic bitters in small wine or ale, as the Peruvian bark, with cinnamon, Virginian snake-root, and orange-peel. The diet at this time should be light, but nourishing, and gentle exercise ought to be taken on horseback, or in a carriage.

Out of the fit, it is in the patient's power to do many things towards preventing a return of the disorder, or rendering the fit, if it should return, less severe. This, however, is not to be attempted by medicine. I have frequently known the gout kept off for several years by the Peruvian bark and other astringent medicines; but in all the cases where I had occasion to see this tried, the persons died suddenly, and to all appearance for want of a regular fit of the gout. One would be apt, from hence, to conclude, that a fit of the gout, to some constitutions, in the decline of life, is rather salutary than hurtful.

Though it may be dangerous to stop a fit of the gout by medicine, yet if the constitution can be so changed by diet and exercise, as to lessen or totally prevent its return, there certainly can

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* Take Magnesia, 1 drachm.
Powder of Rhubarb, 8 grains.
Compound Powder of Cinnamon, 5 grains.
Make an aperient powder to be taken occasionally.

be no danger in following such a course. It is well known, that the whole habit may be so altered by a proper regimen, as quite to eradicate this disease; and those only who have sufficient resolution to persist in such a course have reason to expect a cure.

The course which we would recommend for preventing the gout, is as follows:—In the first place, *universal temperance*. In the next place, *sufficient exercise*.* By this we do not mean sauntering about in an indolent manner, but labour, sweat, and toil. These only can render the humours wholesome, and keep them so. Going early to bed, and rising betimes, are also of great importance. It is likewise proper to avoid night studies, and intense thinking. The supper should be light and taken early. The use of milk, gradually increased, till it becomes the principal part of diet, is particularly recommended. All strong liquors, especially generous wines and sour punch, are to be avoided.

We would likewise recommend some doses of *magnesia alba* and rhubarb to be taken every spring and autumn; and afterwards a course of stomachic bitters,† as tanzy or water-trefoil tea, an infusion of gentian and camomile flowers, or a decoction of burdock-root, &c. Any of these, or an infusion of any wholesome bitter that is more agreeable to the patient, may be drank for two or three weeks in March and October twice a-day. An issue or perpetual blister has a great tendency to prevent the gout. If these were more generally used in the decline of life, they would not only often prevent the gout, but also other chronic maladies. Such as can afford to go to Bath, will find great benefit from bathing and drinking the water. It both promotes digestion, and invigorates the habit.

Though there is little room for medicine during a regular fit of the gout, yet when it leaves the extremities, and falls on some of the internal parts, proper applications to recal and fix it become absolutely necessary. When the gout affects the head, the pain of the joint ceases, and the swelling disappears, while either severe head-ach, drowsiness, trembling, giddiness, convulsions, or delirium come on. When it seizes the lungs, great oppression, with cough and difficulty of breathing ensue. If it attacks the stomach, extreme sickness, vomiting, anxiety, pain in the epigastric region, and total loss of strength will succeed.

When the gout attacks the head or lungs, every method must be taken to fix it in the feet. They must be frequently bathed in warm water, and acrid cataplasms applied to the soles. Blistering plasters ought likewise to be applied to the ancles or calves of the legs. Bleeding in the feet or ancles is also necessary, and warm

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* Some make a secret of curing the gout by *muscular exercise*. This secret, however, is as old as Celsus, who strongly recommends that mode of cure; and whoever will submit to it in the fullest extent, may expect to reap solid and permanent advantages.

† Take Infusion of Calumba Root, 4 oz.
Compound Tincture of P. Bark,
Tincture of Cardamoms,
of each, ½ ounce.
Make a mixture; of which two tablespoonsful are to be taken two or three times a-day.

or

Take Subcarbonate of Iron, 2 drachms.
Powder of P. Bark, 1 ounce.
—— of Cinnamon, 1½ drachm.
Syrup of Orange Peel, a sufficiency to form an electuary; of which the bulk of a nutmeg may be taken twice a-day.

stomachic purges. The patient ought to keep in bed for the most part, if there be any signs of inflammation, and should be very careful not to catch cold.

If it attack the stomach, with a sense of cold, the most warm cordials are necessary; as strong wine boiled up with cinnamon or other spices, cinnamon-water, peppermint-water, and even brandy or rum.* The patient should keep his bed, and endeavour to promote a sweat by drinking warm liquors; and if he should be troubled with a nausea, or inclination to vomit, he may drink camomile-tea, or any thing that will make him vomit freely. Opiates,† joined with aromatics, or with camphor, musk, or ammonia, may be of service.

When the gout attacks the kidneys, and imitates gravel-pains, the patient ought to drink freely of a decoction of marsh-mallows, and to have the parts fomented with warm water. An emollient clyster ought likewise to be given, and afterwards an opiate. If the pain be very violent, twenty or thirty drops of laudanum may be taken in a cup of the decoction.

Persons who have had the gout should be very attentive to any complaints that may happen to them about the time when they have reason to expect a return of the fit. The gout imitates many other disorders, and by being mistaken for them, and treated improperly, is often diverted from its regular course, to the great danger of the patient's life.

Those who never had the gout, but who, from their constitution or manner of living, have reason to expect it, ought likewise to be very circumspect with regard to its first approach. If the disease by wrong conduct or improper medicines, be diverted from its proper course, the miserable patient has a chance to be ever after tormented with head-achs, coughs, pains of the stomach and intestines; and to fall at last a victim to its attack upon some of the more noble parts.

Rheumatism.

This disease has often a resemblance to the gout. It generally attacks the joints with exquisite pain, and is sometimes attended with inflammation and swelling. It is most common in the spring, and towards the end of autumn. It is usually distinguished into acute and chronic: or the rheumatism with and without a fever.

Causes.—The causes of a rheumatism are frequently the same as those of an inflammatory fever, viz. an obstructed perspiration, the immoderate use of strong liquors, and the like. Sudden changes of the weather, and all quick transitions from heat to cold, are very apt to occasion the rheumatism. The most extraor-

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* Ether is found to be an efficacious remedy in this case.

† Take Opium, 1 grain.
Camphor, 6 grains.
Aromatic Confection, 5 grains.
Make a bolus, to be taken occasionally.

or

Take Camphor Mixture, 1½ ounce.
Subcarbonate of Ammonia, 10 grs.
Tincture of Opium, 12 drops.
Spirit of Sulphuric Ether, 30 drops.
Make a draught, to be taken every three hours.

dinary case of a rheumatism that I ever saw, where a most every joint of the body was distorted, was a man who used to work one part of the day by the fire, and the other part of it in the water. Very obstinate rheumatisms have likewise been brought on by persons not accustomed to it, allowing their feet to continue long wet. The same effects are often produced by wet clothes, damp beds, sitting or lying on the damp ground, travelling in the night, &c.

The rheumatism may likewise be occasioned by excessive evacuations, or the stoppage of customary discharges. It is often the effect of chronic diseases, which vitiate the humours; as the scurvy, the *lues venerea*, obstinate autumnal agues, &c.

The rheumatism prevails in cold, damp, marshy countries. It is most common among the poorer sort of peasants, who are ill-clothed, live in low damp houses, and eat coarse and unwholesome food, which contains but little nourishment, and is not easily digested.

Symptoms.—The *acute* rheumatism commonly begins with weariness, shivering, a quick pulse, restlessness, thirst, and other symptoms of fever. Afterwards the patient complains of flying pains, which are increased by the least motion. These at length fix in the joints, which are often affected with swelling and inflammation. If blood be let in this disease, it has generally the same appearance as in the pleurisy.

Medical Treatment.—In this kind of rheumatism the treatment of the patient is nearly the same as in an acute or inflammatory fever. If he be young and strong, bleeding is necessary, which may be repeated according to the exigencies of the case. The body ought likewise to be kept open by emollient clysters, or cool opening liquors; as decoctions of tamarinds, cream of tartar, whey, senna-tea, and the like. The diet should be light, and in small quantity, consisting chiefly of roasted apples, groat gruel, or weak chicken broth. After the feverish symptoms have abated, if the pain still continues, the patient must keep his bed, and take such things as promote perspiration; as wine-whey, with solution of the acetated ammonia, &c.* He may likewise take, for a few nights, at bed-time, in a cup of wine-whey, a drachm of the cream of tartar, and half a drachm of gum guaiacum in powder.

Warm bathing, after proper evacuations, has often an exceedingly good effect. The patient may either be put into a bath of warm water, or have cloths wrung out of it applied to the parts affected. Great care must be taken that he do not catch cold after bathing.

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*Take Camphor Mixture, 1 ounce.
Solution of Tartarized Antimony, 20 drops.
Solution of Acetated Ammonia, 3 drachms.
Mix them for a draught, to be repeated every four or six hours.

or

Take Compound powder of Ipecacuanha, 10 grains.
Confection of Roses, 12 grains.
Simple Syrup, enough to make a bolus; to be taken every third or fourth hour, washing it down with three tablespoonsful of the following mixture:
Take Lemon Juice, 1½ ounce.
Subcarbonate of Ammonia, 1 drm.
Water, 4½ ounces.
Nitrate of Potash, ½ drachm.
Simple Syrup, ½ ounce.
Make a mixture.

The *chronic* rheumatism is seldom attended with any considerable degree of fever, and is generally confined to some particular part of the body, as the shoulders, the back, or the loins. There is seldom any inflammation or swelling in this case. Persons in the decline of life are most subject to the chronic rheumatism. In such patients, it often proves extremely obstinate and sometimes incurable.

In this kind of rheumatism, the regimen should be nearly the same as in the acute. Cool and diluting diet, consisting chiefly of vegetable substances, as stewed prunes, coddled-apples, currants or gooseberries boiled in milk, is most proper. Arbuthnot says, "If there be a specific in aliment for the rheumatism, it is certainly whey;" and adds, "That he knew a person subject to this disease, who could never be cured by any other method but a diet of whey and bread." He likewise says, "That cream of tartar in water gruel, taken for several days, will ease rheumatic pains considerably." This I have often experienced, but found it always more efficacious when joined with gum guaiacum, as already directed. In this case the patient may take the dose formerly mentioned twice a-day, and likewise a tea-spoonful of the volatile tincture of gum guaiacum at bed-time in wine-whey.

This course may be continued for a week, or longer, if the case proves obstinate, and the patient's strength will permit. It ought then to be omitted for a few days, and repeated again. At the same time leeches or a blistering plaster may be applied to the part affected. What I have generally found answer better than either of these, in obstinate fixed rheumatic pains, is the *warm plaster*. I have likewise known a plaster of Burgundy pitch worn for some time on the part affected give great relief in rheumatic pains. My ingenious friend, Dr. Alexander of Edinburgh, says, he has frequently cured very obstinate rheumatic pains, by* rubbing the part affected with tincture of cantharides. When the common tincture did not succeed, he used it of a double or treble strength. Cupping upon the part affected is likewise often very beneficial, and so is the application of leeches.

Blisters are sometimes employed in this complaint; but they appear to be most serviceable in those cases where the disease partakes of the nature of acute rheumatism, or where the pain is fixed in any particular joint; and a repetition of fresh blisters will be preferable to keeping up a constant sore by stimulating the part with savine or other ointments; and produce a greater effect upon the disease.

Though this disease may not seem to yield to medicines for some time, yet they ought still to be persisted in. Persons who are subject to frequent returns of the rheumatism will often find their account in using medicines, whether they be immediately affected with the disease or not. The chronic rheumatism is similar to the gout in this respect, that the most proper time for using medicines to extirpate it is when the patient is most free from the disorder.

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* Take Olive Oil, 2 ounces. Tincture of Cantharides, 1 drachm.
Camphor, 2 drachms. Solution of Ammonia, ½ ounce.
Dissolve, and add, Make a liniment.

To those who can afford the expense, I would recommend the warm baths of Buxton or Matlock in Derbyshire. These have often, to my knowledge, cured very obstinate rheumatisms, and are always safe, either in or out of the fit. When the rheumatism is complicated with scorbutic complaints, which is not seldom the case, the Harrowgate waters, and those of Moffat, are proper. They should both be drank and used as a warm bath.

There are several of our own domestic plants which may be used with advantage in the rheumatism. One of the best is the white *mustard*. A table-spoonful of the seed of this plant may be taken twice or thrice a-day, in a glass of water or small wine. The water trefoil is likewise of great use in this complaint. It may be infused in wine or ale, or drank in form of tea. The ground-ivy, camomile, and several other bitters, are also beneficial, and may be used in the same manner. No benefit, however, is to be expected from these, unless they be taken for a considerable time. Excellent medicines are often despised in this disease, because they do not perform an immediate cure: whereas nothing would be more certain than their effect, were they duly persisted in. Want of perseverance in the use of medicines is one reason why chronic diseases are so seldom cured.

The internal remedies most generally recommended in chronic rheumatism are sudorifics, and medicines of a stimulating nature, which abound in essential oils and resins; and therefore volatile alkaline salts, guaiacum, turpentine combined with Cinchona bark, and the like, may be given in any of the undermentioned forms.*

Cold bathing, especially in salt water, often cures the rheumatism. We would also recommend exercise, and wearing flannel next the skin. Issues are likewise very proper, especially in chronic cases. If the pain affects the shoulders, an issue may be made in the arm; but if it affects the loins, it should be put into the leg or thigh.

Persons afflicted with the scurvy are very subject to rheumatic complaints. The best medicines in this case are bitters and mild purgatives. These may either be taken separately or together, as the patient inclines. An ounce of Peruvian bark, and half an ounce of rhubarb, in powder, may be infused in a bottle of wine, and one, two, or three wine glasses of it taken daily, as shall be found necessary for keeping the body gently open. In cases where the bark itself proves sufficiently purgative, the rhubarb may be omitted.

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* Take Oil of Turpentine, 1½ drachm.
Yolk of an egg, enough to mix them,
Then add,
Compound Spirit of Juniper, 1 oz.
Decoction of Bark, 5 ounces.
Make a mixture, of which take two tablespoonsful every four hours.

or

Take Rectified Oil of Turpentine,
Spirit of Nitric Ether,
of each equal parts, 1 ounce.
A tea-spoonful to be taken three times a-day in some appropriate vehicle.

or

Take Guaiacum, in Powder, 6 grains.
Antimonial Powder 3 grains
Syrup of Ginger, enough to form a bolus to be taken three times a day

or

Take Ammoniated Tincture of Guaiacum, 2 drachms.
Spirit of Cinnamon, ½ ounce.
Decoction of Bark, 1 ounce.
Solution of Tartarized Antimony, 24 drops.
Make a draught, to be taken two or three times a-day.

Such as are subject to frequent attacks of the rheumatism ought to make choice of a dry, warm situation, to avoid the night-air, wet clothes, and wet feet, as much as possible. Their clothing should be warm, and they should wear flannel next their skin, and make frequent use of the flesh-brush.

One of the best articles of dress, not only for the prevention of the rheumatism, but for powerful co-operation in its cure, is fleecy hosiery. A medical friend of mine, of long experience and much practice in the isle of Ely, assured me, that the introduction of that manufacture had prevented more rheumatisms, colds, and agues, than all the medicines which had ever been used there. Such of the inhabitants of marshy countries as are in easy circumstances could not, perhaps, direct their charity and humanity to a better object than to the supplying of their poor neighbours with so cheap and simple a preservative. I have even myself experienced the good effects of such warm covering in the rheumatism, to which I was very subject about thirty years ago; but have never experienced any attack of it since I took to warm clothing.

When there are any suspicions of the disease being connected with a syphilitic taint, a long continued course of mercurial alteratives (see *Syphilis*) must be entered upon.

Chronic rheumatism sometimes affects the lumbar region, with an acute pain shooting down into the os sacrum, so that the patient cannot stand upright without suffering considerable pain and inconvenience; nor does he feel any ease when in bed. This affection is known by the name of lumbago, and, as it frequently does, when it fixes itself in the hip-joint, it is called sciatica. Both of these affections are to be treated in the same manner as chronic rheumatism. In sciatica and local pains of the hip and loins, turpentine is often given with relief, as is also guaiacum combined with the essential oil of sassafras; and the external application of the Bath waters have been recommended by Dr. W. Falconer, as affording considerable benefit.

CHAP. XXXI.

SCURVY. *(Scorbutus.)*

This disease prevails chiefly in cold northern countries, especially in low damp situations, near large marshes, or great quantities of stagnating water. Sedentary people, of a dull melancholy disposition, are most subject to it. It proves often fatal to sailors on long voyages, particularly in ships that are not properly ventilated, have many people on board, or where cleanliness is neglected.

It is not necessary to mention the different species into which this disease has been divided, as they differ from one another chiefly in degree. What is called the *land scurvy*, however, is seldom attended with those highly putrid symptoms which appear in patients who have been long at sea, and which, we presume, are rather owing to confined air, want of exercise, and the unwholesome food eaten by sailors on long voyages, than to any specific difference in the disease.

Causes.—The scurvy is occasioned by cold moist air; by the long use of salted or smoke-dried provisions, or any kind of food, that is hard of digestion, and affords little nourishment. It may also proceed from the suppression of customary evacuations, as the *menses*, the hæmorrhoidal flux, &c. It is sometimes owing to an hereditary taint, in which case a very small cause will excite the latent disorder. Grief, fear, and other depressing passions, have a great tendency both to excite and aggravate this disease. The same observation holds with regard to neglect of cleanliness, bad clothing, the want of proper exercise, confined air, unwholesome food, or any disease which greatly weakens the body, or vitiates the humours.

Symptoms.—This disease may be known by unusual weariness, heaviness, and difficulty of breathing, especially after motion; rottenness of the gums, which are apt to bleed on the slightest touch; a stinking breath; frequent bleeding at the nose; crackling of the joints; difficulty of walking; sometimes a swelling, and sometimes a falling away of the legs, on which there are livid, yellow, or violet-coloured spots; the face is generally of a pale or leaden colour. As the disease advances, other symptoms come on; as rottenness of the teeth, hæmorrhages, or discharges of blood from different parts of the body, foul obstinate ulcers, pains in various parts, especially about the breast, dry scaly eruptions all over the body, &c. At last a wasting or hectic fever comes on, and the miserable patient is often carried off by a dysentery, a diarrhœa, a dropsy, the palsy, fainting fits, or a mortification of some of the bowels.

Cure.—We know no way of curing this disease but by pursuing a plan directly opposite to that which brings it on. It proceeds from a vitiated state of the humours, occasioned by errors in diet, air, or exercise; and this cannot be removed but by a proper attention to these important articles.

If the patient has been obliged to breathe a cold, damp, or confined air, he should be removed, as soon as possible, to a dry, open, and moderately warm one. If there is reason to believe that the disease proceeds from a sedentary life, or depressing passions, as grief, fear, &c., the patient must take daily as much exercise in the open air as he can bear, and his mind should be diverted by cheerful company and other amusements. Nothing has a greater tendency either to prevent or remove this disease than constant cheerfulness and good humour. But this, alas! is seldom the lot of persons afflicted with the scurvy; they are generally surly, peevish, and morose.

When the scurvy has been brought on by a long use of salted provisions, the proper medicine is a diet consisting chiefly of fresh vegetables; as oranges, apples, lemons, limes, tamarinds, watercresses, scurvy-grass, brook-lime, &c. The use of these, with milk, pot-herbs, new bread, and fresh beer or cider, will seldom fail to remove the scurvy of this kind, if taken before it is too far advanced; but to have this effect, they must be persisted in for a considerable time. When fresh vegetables cannot be obtained,

pickled or preserved ones may be used; and where these are wanting, recourse must be had to the chymical acids. All the patient's food and drink should, in this case, be sharpened with cream of tartar, elixir of vitriol, vinegar, or the muriatic acid.

These things, however, will more certainly prevent than cure the scurvy, for which reason sea-faring people, especially in long voyages, ought to lay in plenty of them. Cabbages, onions, gooseberries, and many other vegetables, may be kept a long time by *pickling*, *preserving*, &c., and when these fail, the chymical acids recommended above, which will keep for any length of time, may be used. We have reason to believe, if ships were well ventilated, had got store of fruits, greens, cider, &c. laid in, and if proper regard were paid to cleanliness and warmth, that sailors would be the most healthy people in the world, and would seldom suffer either from the scurvy or putrid fevers, which are so fatal to that useful class of men: but it is too much the temper of such people to despise all precaution; they will not think of any calamity till it overtakes them, when it is too late to ward off the blow.

In the course of the disease particular symptoms may arise requiring a separate consideration. Pains of the belly are to be relieved by emollients and opiates; oppression at the chest and impeded respiration by blisters; for bleeding is never to be used in this disease; contractions of the hams and calves of the legs, by fomenting the part with warm vinegar and water, and by the application of emollient poultices and frictions; sponginess of the gums, and looseness of the teeth, by washing the mouth frequently with antiseptic and astringent gargles;* and foul ulcers are to be cleansed and healed by washing them with lemon-juice, or a tincture consisting of equal parts of the tincture of myrrh, and then dressing them with some kind of ointment, or a sorrel poultice. In bad cases of ulceration the charcoal or effervescent poultice may probably be serviceable.

It must indeed be owned, that many of them have it not in their power to make the provision we are speaking of; but in this case it is the duty of their employers to make it for them; and no man ought to engage in a long voyage without having these articles secured.†

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* Take Infusion of Roses, 4 ounces,
Alum, in Powder, 1½ ounce.
Honey, 1 drachm.
Mix them for a gargle.

or

Take Decoction of Bark, 6 ounces.
Tincture of Myrrh, 1½ ounce.
Muriatic Acid, 12 to 20 drops.
Make a gargle.

† Every body knows how much easier it is to prevent than to cure any disease; but this is particularly true with respect to the scurvy. I have therefore recommended the most assured means of preserving our seamen from its formidable attacks. Vegetable and mineral acids are certainly the best correctives of the acrimony occasioned by the long use of salted provisions. These are one of the chief causes of the scurvy not only at sea, but on land also, where salted and smoke dried meats are a favourite and very customary article of food. It appears from the reports of modern travellers, that the scurvy is almost unknown to the natives of Canada, though they live entirely on animal food, but not salted; while the use of the latter never fails to produce the scurvy. Would it not then be worth while to make various experiments for preserving meat at sea without salt? Surely the resources of human invention are not exhausted. The absorbent and antiputrescent properties of sugar are well known; but it might be deemed too expensive a seasoning. I must leave trials of this sort to persons of more leisure. It is enough for me to suggest the hint. I wish it may lead to a discovery of so much importance.

I have often seen very extraordinary effects in the land-scurvy from a milk diet. This preparation of Nature is a mixture of animal and vegetable properties, which of all others is the most fit for restoring a decayed constitution, and removing that particular acrimony of the humours, which seems to constitute the very essence of the scurvy, and many other diseases. But people despise this wholesome and nourishing food, because it is cheap, and devour with greediness flesh and fermented liquors, while milk is only deemed fit for their hogs.

The most proper drink in the scurvy is whey or buttermilk. When these cannot be had, sound cider, perry, or spruce-beer, may be used. Wort has likewise been found to be a proper drink in the scurvy, and may be used at sea, as malt will keep during the longest voyage. A decoction of the tops of the spruce-fir is likewise proper. It may be drank in the quantity of an English pint twice a-day. Tar-water may be used for the same purpose, or decoctions of any of the mild mucilaginous vegetables; as sarsaparilla, marsh-mallow roots, &c. Infusions of the bitter plants, as ground ivy, the lesser centaury, marsh-trefoil, &c. are likewise beneficial. I have seen the peasants in some parts of Britain express the juice of the last-mentioned plant, and drink it with good effect in those foul scorbutic eruptions with which they are often troubled in the spring season.

Harrowgate-water is certainly an excellent medicine in the land-scurvy. I have often seen patients who had been reduced to the most deplorable condition by this disease, greatly relieved by drinking the sulphur-water, and bathing in it. The chalybeate-water may also be used with advantage, especially with a view to brace the stomach after drinking the sulphur-water, which, though it sharpens the appetite, never fails to weaken the powers of digestion.

A slight degree of scurvy may be carried off by frequently sucking a little of the juice of a bitter orange or a lemon. When the disease affects the gums only, this practice, if continued for some time, will generally carry it off. We would, however, recommend the bitter orange as greatly preferable to lemon; it seems to be as good a medicine, and is not near so hurtful to the stomach. Perhaps our own sorrel may be little inferior to either of them.

All kinds of salad are good in the scurvy, and ought to be eaten very plentifully, as spinage, lettuce, parsley, celery, endive, radish, dandelion, &c. It is amazing to see how soon fresh vegetables in the spring cure the brute animals of any scab or foulness which is upon their skins. It is reasonable to suppose that their effects would be as great upon the human species, were they used in proper quantity for a sufficient length of time.

I have sometimes seen good effects in scorbutic complaints of very long standing, from the use of a decoction of the roots of water-dock. It is usually made by boiling a pound of the fresh root in six English pints of water, till about one-third of it be consumed. The dose is from half a pint to a whole pint of the decoction every day. But in all the cases where I have seen it prove beneficial, it was made much stronger, and drank in larger quantities. The safest way, however, is for the patient to begin with

small doses, and increase them both in strength and quantity, as he finds his stomach will bear it. It must be used for a considerable time. I have known some take it for many months, and have been told of others who had used it for several years, before they were sensible of any benefit, but who nevertheless were cured by it at length.

The leprosy, which was so common in this country long ago, seems to have been near a-kin to the scurvy. Perhaps its appearing so seldom now, may be owing to the inhabitants of Britain eating more vegetable food than formerly, living more upon tea and other diluting diet, using less salted meat, being more cleanly, better lodged and clothed, &c.—For the cure of this disease, we would recommend the same course of diet and medicine as in the scurvy.

I have met with very few cases of real leprosy in the course of my practice. The dry, scaly eruptions all over the body, which are often the effects of the scurvy, are very liable to be considered as leprous symptoms, and certainly resemble them very much. But no evil can arise even from mistake in this particular, as the same alterative plan, which is advisable in the scurvy, will be generally found efficacious in the leprosy. Perhaps in the latter complaint, we ought to lay a greater stress, if possible, on the benefit of good air, and of frequent changes of the linen worn next the skin. What has been peculiarly called the disease of uncleanness, can only be remedied by the practice of the opposite virtue. I have also found, that, after proper means for correcting internal impurities had been used for some time, the complete disappearance of the leper's sores was often safely and effectually promoted by the *ointment for diseases of the skin* mentioned in the Appendix.*

The medicinal virtues of the Bath waters, as well as those of Harrowgate, in the cure of the leprosy, are very highly, and I believe very justly esteemed.

Scrofula, or King's Evil.

This disease chiefly affects the glands, especially those of the neck. Children and young persons of a sedentary life, are very subject to it. It is one of those diseases which may be removed by proper regimen, but seldom yields to medicine. The inhabitants of cold, damp, marshy countries are most liable to the scrofula.

Causes.—This disease may proceed from an hereditary taint, infection, a scrofulous nurse, &c. Children who have the misfortune to be born of sickly parents, whose constitutions have been greatly injured by the pox, or other chronic diseases, are apt to be affected by the scrofula. It may likewise proceed from such diseases as weaken the habit or vitiate the humours, as the small-pox, measles, &c. External injuries, as blows, bruises, and the like,

* I have lately seen some instances of inveterate eruptions on the face, commonly termed scorbutic, removed by the use of the dulcamara. Take of the stalks of that plant, half an ounce, liquorice root, two drachms; macerate in two quarts of warm water for two hours, and then boil for ten minutes. Of the strained decoction a teacupful with a little milk, may be taken three times a-day. It must be persisted in for some time. A. P. B.

sometimes produce scrofulous ulcers; but we have reason to believe, when this happens, that there has been a predisposition in the habit to this disease. In short, whatever tends to vitiate the humours or relax the solids, paves the way to the scrofula; as the want of proper exercise, too much heat or cold, confined air, unwholesome food, bad water, the long use of poor, weak, watery aliments, the neglect of cleanliness, &c. Nothing tends more to induce this disease in children than allowing them to continue long wet.*

Symptoms.—At first, small knots appear under the chin, or behind the ears, which gradually increase in number and size, till they form one large hard tumour. This often continues for a long time without breaking, and when it does break, it only discharges a thin *sanies*, or watery humour. Other parts of the body are likewise liable to its attack, as the arm-pits, groins, feet, hands, eyes, breast, &c. Nor are the internal parts exempt from it. It often affects the lungs, liver, or spleen; and I have frequently seen the glands of the mysentery greatly enlarged by it.

Those obstinate ulcers which break out upon the feet and hands with swelling, and little or no redness, are of the scrofulous kind. They seldom discharge good matter, and are exceedingly difficult to cure. The *white swellings* of the joints seem likewise to be of this kind. They are with difficulty brought to a suppuration, and when opened they only discharge a thin ichor. There is not a more general symptom of the scrofula than a swelling of the upper lip and nose. It sometimes begins in a toe or finger, which continues long swelled, with no great degree of pain, till the bone becomes carious.

Regimen.—As this disease proceeds, in a great measure, from relaxation, the diet ought to be generous and nourishing, but at the same time light and of easy digestion; as well-fermented bread made of sound grain, the flesh and broth of young animals, with now and then a glass of generous wine, or good ale. The air ought to be open, dry, and not too cold, and the patient should take as much exercise as he can bear. This is of the utmost importance. Children who have sufficient exercise are seldom troubled with the scrofula.

Medical treatment.—The vulgar are remarkably credulous with regard to the cure of the scrofula; many of them believing in the virtue of the royal touch, that of the seventh son, &c. The truth is, we know but little either of the nature or cure of this disease, and where reason or medicines fail, superstition always comes in their place. The submuriate of mercury, however, is by far the most celebrated of all the purgative medicines which have been employed in the treatment of scrofula; and it is undoubtedly a serviceable remedy in many stages of the disease. In prescribing it we must be careful not to give it in such a quantity as to pro-

* The scrofula, as well as the rickets, is found to prevail in large manufacturing towns, where people live grossly, and lead sedentary lives.

duce the specific effects of mercury to any extent. When given cautiously and in moderate doses, so as to act merely as an alterative* or gentle purgative, it agrees well in scrofulous complaints, and greatly contributes to discuss tumours and resolve indurations of this nature; or combined with antimony, or opium, where there is much irritation, or where there are deep-seated affections of the joints, &c. The scrofula, at a certain period of life, often cures of itself; and, if the patient happens to be touched about this time, the cure is imputed to the touch, and not to Nature, who is really the physician. In the same way the insignificant nostrums of quacks and old women often gain applause when they deserve none.

There is nothing more pernicious than the custom of plying children in the scrofula with strong purgative medicines. People imagine it proceeds from humours which must be purged off, without considering that these purgatives increase the debility and aggravate the disease. It has indeed been found, that keeping the body gently open for some time, especially with sea-water, has a good effect; but this should only be given in gross habits, and in such quantity as to procure one, or at most two stools every day.

Bathing in the salt-water has likewise a very good effect, especially in the warm season. I have often known a course of bathing in salt-water, and drinking it in such quantities as to keep the body gently open, cure a scrofula, after many other medicines had been tried in vain. When salt-water cannot be obtained, the patient may be bathed in fresh water, and his body kept open by small quantities of salt and water, or some other mild purgative.

Next to cold bathing and drinking the salt-water, we would recommend the Peruvian bark.† Burnt sponge is another remedy which has been much administered in this disease, and frequently with advantage. It may be given either in the form of bolus or draught.‡ A more active medicine, however, is the carbonate of soda in doses from ten to twenty grains to a drachm, twice or thrice a-day.§ The cold bath may be used in summer, and the bark in winter. To an adult half a drachm of the bark in powder may be given in a glass of red wine four or five times a-day. Children, and such as cannot take it in substance, may use the decoction made in the following manner:—

Boil an ounce of Peruvian bark and a drachm of winter's bark, both grossly powdered, in an English quart of water to a pint:

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* Take Prepared Chalk, 1 drachm.
Submuriate of Mercury, 2 to 4 grs.
Tartarized Antimony, 2 grains.
Mix, and divide in 12 powders, of which let one be taken twice a-day.

† Take Extract of Peruvian Bark, 2 drms.
——— of Hemlock, 1 drachm.
Make 40 pills; and take two or three three times a-day.

‡ Take Burnt Sponge, 20 to 30 grains.
Rhubarb, 3 grains.
Honey, enough to make a bolus, to be taken twice a-day.

§ Take Carbonate of Soda, 2 drachms.
Infusion of Bark, 5 ounces.
Compound Tincture of Cinnamon, ½ ounce.
Syrup of Orange Peel, ½ drachms.
Make a Mixture, two table-spoonsful of which are to be taken three or four times a-day.

or

Take of Decoction of Bark, 10 drachms.
C. Tincture of Cardamoms, 1½ drachm.
Carbonate of Soda, 15 grains.
Make a draught, to be taken two or three times a-day.

towards the end, half an ounce of sliced liquorice-root and a handful of raisins may be added, which will both render the decoction less disagreeable, and make it take up more of the bark. The liquor must be strained, and two, three, or four table-spoonsful, according to the age of the patient, given three times a-day; but, in place of this, I now use the compound tincture of bark.

The Moffat and Harrowgate waters, especially the latter, are likewise very proper medicines in the scrofula. They ought not, however, to be drank in large quantities, but should be taken so as to keep the body gently open, and must be used for a considerable time.

Hemlock may sometimes be used with advantage in the scrofula. Some lay it down as a general rule, that the sea-water is most proper before there are any suppuration or symptoms of *tabes:* the Peruvian bark, when there are running sores, and a degree of hectic fever; and the hemlock in old inveterate cases, approaching to the scirrhous or cancerous state. Either the extract or the fresh juice of this plant may be used. The dose may be small at first, and increased gradually as far as the stomach is able to bear it.

External applications are of little use. Before the tumour breaks, nothing ought to be applied to it, unless a piece of flannel, or something to keep it warm. After it breaks, the sore may be dressed with some digestive ointment. What I have always found to answer best, was the yellow basilicon mixed with about a sixth or eighth part of its weight of red precipitate of mercury. The sore may be dressed with this twice a-day; and if it be very fungous, and does not digest well, a larger proportion of the precipitate may be added.*

Scrofulous ulcers which had resisted many other remedies have healed under a weak solution of nitric acid in water (thirty drops or less of the former to a pint of the latter.) In spreading and irritable sores, the application of an aqueous solution of opium, or of hemlock, and afterwards a solution of zinc, may be beneficial. Where the granulations rise above the surface, and are broad and flabby, and where pressure cannot be applied, the sorrel poultice† has proved useful. The topical application of bruised sorrel leaves has been recommended in very flattering terms as contributing essentially to the cicatrization of indolent scrofulous ulcers.

In scrofulous sores of an ugly, gleeting, and ill-conditioned appearance, much benefit has been obtained by the application of a poultice made with crumbs of bread moistened with a solution of about an ounce of the crystals of soda in a quart of water. The sub-borate of soda in the proportion of half a drachm to one drachm mixed with an ounce of spermaceti ointment, or Turner's cerate, has been found an efficacious application to scrofulous ulcers; and by such dressings they have been known to heal in a short space of time, when other applications have entirely failed.

Medicines which mitigate this disease, though they do not cure

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* The application of the lunar caustic tends very much to promote the cure of scrofulous ulcers, after they have broke, for they should never be opened. They will bear a pretty free daily application of this stimulus, not only with impunity, but advantage. A. P. B.

† Sorrel, a pound, to be beaten to a pulp, and applied to the parts affected.

it, are not to be despised. If the patient can be kept alive by any means till he arrives at the age of puberty, he has a great chance to get well; but if he does not recover at this time, in all probability he never will.

There is no malady which parents are so apt to communicate to their offspring as the scrofula, for which reason people ought to beware of marrying into families affected with this disease.

Observations.—One of the most effectual means of guarding against the scrofula, is a constant attention to keep the child dry and clean, by the immediate removal of all impurities, which not only taint the air and relax the skin, but vitiate the humours of the body, in consequence of the absorption of their most noxious particles through the pores.

Washing children frequently, forms a necessary part of this plan. At first, lukewarm water is proper, as being best suited to the new-born infant, on account of the warm temperature to which he had been accustomed in the womb, and on account of the delicacy of habit which he may have inherited from his parents. But the warmth of the water should be gradually diminished as the infant gains strength, till it can be used quite cold with great safety and benefit. The cold bath, so essential to the cure of the scrofula, operates with still greater certainty as a preventive. It braces and invigorates the frame, and thus directly counteracts one of the principal causes of the evil, which is relaxation. The whole body ought to be washed every morning, and the lower half every night, after which the child is to be instantly wiped dry, and wrapped up in a warm blanket, to guard against the danger of sudden cold, and to secure all the advantages of so salutary an operation.

My former arguments, in favour of light and loose clothing for children in general, acquire double force when there is the least reason to dread the scrofula. It is little short of murder to keep an infant of a delicate habit smothered in clothes, and panting in a sort of vapour-bath caused by the noxious steams of its own body. The covering both by day and by night should be as light as is consistent with due warmth. The linen next the skin, which is always imbibing perspirable matter, must be changed often; and the same dress ought never to be kept on for more than twelve hours together.

Wholesome unconfined air, and frequent exercise, are grand preservatives from all diseases, but especially from the scrofula. It is not enough to select the most spacious and lofty apartment in the house for the nursery; children should be taken out into the fields every day, particularly about noon, unless the heat be intense, as the most salutary exhalations from the earth then abound, and the air is impregnated with the balmy essence of the sweetest plants and flowers. Cold and wet weather being deemed one of the exciting causes of the scrofula, any wanton exposure to it would be improper; though even in this respect, less caution is necessary, if the use of the cold bath be continued every morning. This will brace the thinnest, finest skin, and harden it against the impressions of a damp, chilly atmosphere.

Exercise, besides strengthening the whole habit, and powerfully

assisting all the vital functions, has a direct tendency to prevent obstructions of every kind, and those of the glands in particular, which constitute the earliest symptoms of the disease in question.

On the subject of diet, some little deviations must be made from my general plan, in rearing the child of scrofulous parents, or one that is marked with what may be called a pre-disposition to this disease, a thin skin, and a general weakness and flaccidity of the habit. Extraordinary care should be taken to secure a very healthy nurse for such a child; and, after it is weaned, the use of animal food, but light and easy of digestion, should be gradually introduced, and freely allowed at dinner every day. In case of any just apprehensions of the scrofula, we must not trust to a mild regimen, to milk and vegetables, though in general so wholesome and nutritious. They cannot give that tone to the stomach, and that energy to the whole system, which they now stand in need of. A gross, full diet will certainly occasion humours and eruptions; but these are very different from the scrofula, and far more easily cured. A poverty of the blood, a relaxation of the fibres, those sure attendants, if not the principal causes of the evil, require the most strengthening articles both of food and drink.

But I must reprobate, above all things, butter in every form, and other oily substances, which are so apt to turn rancid on the stomach, loading it with phlegm, relaxing and impeding its action, inducing a debility of the solids, and occasioning a great number of complaints, as well as glandular obstructions. One of the worst compositions, of which butter or fat always forms a part, is pastry. I really shudder whenever I see a delicate woman, or a weak child, greedily devouring those palatable poisons. Let it be understood, that I include in this censure gingerbread, plumcakes, and all trash of the like kind. Indeed, a child of a scrofulous habit should never eat any preparation of flour, except plain, well-made, and well-baked bread.*

The Itch. *(Psora.)*

Though this disease is commonly communicated by infection, yet it seldom prevails where due regard is paid to cleanliness, fresh air, and wholesome diet. It generally appears in form of small watery pustules, first about the wrists, or between the fingers; afterwards it affects the arms, thighs, legs, &c. These pustules are attended with an intolerable itching, especially when the patient is warm in bed, or sits by the fire. Sometimes, indeed, the skin is covered with large blotches or scabs, and at other times with a white scurf, or scaly eruption. This last is called the Dry Itch, and is the most difficult to cure.

The itch is seldom a dangerous disease, unless when it is rendered so by neglect or improper treatment. If it be suffered to continue too long, it may vitiate the whole mass of humours; and, if it be suddenly drove in, without proper evacuations, it may occasion fevers, inflammations of the viscera, or other internal disorders.

* Delicate children are greatly injured by the common habit of bibbing too much thin warm fluid, such as weak tea. They are chiefly enticed to this practice by the sweetness of these drinks. Such children ought not to be permitted to drink any thing sweet or warm. The stomach is braced by cold applications, as well as the skin. Ed.

sion of the brain, occasioned by an excess of blood, or a collection of watery humours. The former is called a *sanguine*, and the latter a *serous* apoplexy. It may be occasioned by any thing that increases the circulation towards the brain, or prevents the return of the blood from the head: as intense study; violent passions;* viewing objects for a long time obliquely; wearing any thing too tight about the neck; a rich and luxurious diet; suppression of urine; suffering the body to cool suddenly after having been greatly heated; continuing long in a warm or cold bath; the excessive use of spiceries, or high-seasoned food; excess of venery; the sudden striking in of any eruption; suffering issues, setons, &c. suddenly to dry up, or the stoppage of any customary evacuation; a mercurial salivation pushed too far, or suddenly checked by cold; wounds or bruises on the head; long exposure to excessive cold; poisonous exhalations, &c.

Symptoms, and method of cure.—The usual forerunners of an apoplexy are giddiness, pain and swimming of the head; loss of memory; drowsiness; noise in the ears; the nightmare; a spontaneous flux of tears, and laborious respiration. When persons of an apoplectic make observe these symptoms, they have reason to fear the approach of a fit, and should endeavour to prevent it by bleeding, a slender diet, and opening medicines.

In the sanguine apoplexy, if the patient does not die suddenly, the countenance appears florid, the face is swelled or puffed up, and the blood vessels, especially about the neck and temples, are turgid; the pulse beats strong; the eyes are prominent and fixed, and the breathing is difficult, and performed with a snorting noise. The excrements and urine are often voided spontaneously, and the patient is sometimes seized with vomiting.

In this species of apoplexy every method must be taken to lessen the force of the circulation towards the head. The patient should be kept perfectly easy and cool. His head should be raised pretty high, and his feet suffered to hang down. His clothes ought to be loosened, especially about the neck, and fresh air admitted into his chamber. His garters should be tied pretty tight, by which means the motion of the blood from the lower extremities will be retarded. As soon as the patient is placed in a proper posture, he should be bled freely in the neck or arm, and, if there be occasion, the operation may be repeated in two or three hours. A laxative clyster,† with plenty of sweet oil or fresh butter, and a spoonful or two of common salt in it, may be administered every two hours; and blistering plasters applied between the shoulders, and to the calves of the legs.

As soon as the symptoms are a little abated, and the patient is

*I knew a woman who, in a violent fit of anger, was seized with a sanguine apoplexy. She at first complained of extreme pain, *as if daggers had been thrust through her head*, as she expressed it. Afterwards she became comatose, her pulse sunk very low, and was exceeding slow. By bleeding, blistering, and other evacuations, she was kept alive for about a fortnight. When her head was opened, a large quantity of extravasated blood was found in the left ventricle of the brain.

†Take Compound Extract of Colocynth, ½ to 1 drachm. Infusion of Senna 11 ounces. Castor Oil, 1 ounce. Mix for a clyster, to be injected immediately.

able to swallow, he ought to drink freely of some diluting opening liquor; as a decoction of tamarinds and liquorice, cream-tartar whey, or common whey with cream of tartar dissolved in it. Or he may take any cooling purge, as Glauber's salts, manna dissolved in an infusion of senna, tincture of rhubarb, or the like. All spirits and other strong liquors are to be avoided. Even volatile salts held to the nose do mischief. Vomits for the same reason, ought not to be given, or any thing that may increase the motion of the blood towards the head.

In the serous apoplexy the symptoms are nearly the same, only the pulse is not so strong, the countenance is less florid, and the breathing less difficult. Bleeding is not so necessary here as in the former case. It may, however, generally be performed once with safety and advantage, but should not be repeated. The patient should be placed in the same posture as directed above, and should have blistering plasters applied, and receive opening clysters in the same manner. Purges are here likewise necessary, and the patient may drink strong balm tea. If he be inclined to sweat, it ought to be promoted by drinking small wine whey, or an infusion of *carduus benedictus*. A plentiful perspiration kept up for a considerable time has often carried off a serous apoplexy. Out of a fit of serous apoplexy the cephalic and nervous medicines recommended in palsy will be proper, taking occasionally some stomachic purgative. If the disease arise in consequence of a suppression of piles, leeches should be applied to the hemorrhoidal veins, fomentations must be employed, and the intestines stimulated by means of aloetic purges.

When apoplectic symptoms proceed from opium, or other narcotic substances taken into the stomach, vomits are necessary. The patient is generally relieved as soon as he has discharged the poison in this way.

Persons of plethoric or apoplectic make, or those who have been attacked by it, ought to use a very spare and slender diet, avoiding all strong liquors, spiceries, and high-seasoned food. They ought likewise to guard against all violent passions, and to avoid the extremes of heat and cold. The head should be shaved, and daily washed with cold water. The feet ought to be kept warm, and never suffered to continue long wet. The body must be kept open either by food or medicine, and a little blood may be let every spring and fall. Exercise should by no means be neglected; but it ought to be taken in moderation. Nothing has a more happy effect in preventing an apoplexy than perpetual issues or setons; great care, however, must be taken not to suffer them to dry up, without opening others in their stead. Apoplectic persons ought never to go to rest with a full stomach, or to lie with their heads low, or to wear any thing too tight about their necks. When an attack of apoplexy is immediately threatened, blood-letting is the remedy most to be relied on, and the blood should be drawn either from the jugular vein or temporal artery, determining the extent of blood to be taken away by the circumstances of the case, &c. When a lethargic disposition prevails, bleeding should also be adopted, particularly topical, from the temples, by means of leeches, or from the nape of the neck by the scarificator and cupping;

the frequent use of cathartics,* and a blister applied to the head or its immediate vicinity.

The preceding cautions are of far greater importance than such persons may be aware of. The circulation, which is slower during sleep than when awake, is farther clogged by a fulness of the stomach. The low posture of the head not only favours, but seems to invite stagnation; and tight ligatures round the neck, impede the return of the blood from the vessels of the brain, so that an apoplexy, not only very naturally, but almost inevitably follows. Instead of being astonished at the number of those who go to bed in apparent health, and are found dead in the morning, we should consider it as a matter of much more surprise for a person of a plethoric habit, after unchecked indulgence in the pleasures of the table, to go to rest without any regard to the inclination of his head or the tightness of his collar, and ever to rise again.†

Costiveness, and other Affections of the Stomach and Bowels.

We do not here mean to treat of those astrictions of the bowels which are the symptoms of diseases, as of the cholic, the iliac passion, &c., but only to take notice of that infrequency of stools which sometimes happens, and which in some particular constitutions may occasion diseases.

Costiveness may proceed from drinking rough red wines or other astringent liquors; too much exercise, especially on horseback. It may likewise proceed from a long use of cold insipid food, which does not sufficiently stimulate the intestines. Sometimes it is owing to the bile not descending to the intestines, as in the jaundice; and at other times it proceeds from diseases of the intestines themselves, as a palsy, spasms, torpor, tumours, a cold dry state of the intestines, &c.

Excessive costiveness is apt to occasion pains of the head, vomiting colics, and other complaints of the bowels. It is peculiarly hurtful to hypochondriac and hysteric persons, as it generates wind and other grievous symptoms. Some people, however, can bear costiveness to a great degree. I know persons who enjoy pretty good health, yet do not go to stool above once a-week, and others not above once a fortnight; indeed I have heard of some who do not go above once a-month.

Persons who are generally costive should live upon a moistening and laxative diet; as roasted or boiled apples, pears, stewed prunes, raisins, gruels with currants, butter, honey, sugar, and such like. Broths with spinage, leeks, and other soft pot-herbs, are likewise proper. Rye-bread, or that which is made of a mixture of wheat and rye together, ought to be eaten. No person troubled with costiveness should eat white bread alone, especially

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*Take Submuriate of Mercury, 6 grains.
Compound Extract of Colocynth, 15 grains.
Make 4 pills for a dose.

or

Take Wine of Aloes, 2 ounces.
Tincture of Jalap, 2 drachms.
Infusion of Senna, 1 ounce.
Make a cathartic draught.

†Persons inclined to apoplexy derive great benefit from cupping. This operation should never be omitted once or twice a-year. Ed.

that which is made of fine flour. The best bread for keeping the body soluble is what in some parts of England they call *meslin*. It is made of a mixture of wheat and rye, and is very agreeable to those who are accustomed to it.

Costiveness is increased by keeping the body too warm, and by every thing that promotes the perspiration; as wearing flannel, lying too long in bed, &c. Intense thought and sedentary life are likewise hurtful. All the secretions and excretions are promoted by moderate exercise without doors, and by a gay, cheerful, sprightly temper of mind.

The drink should be of an opening quality. All ardent spirits, austere and astringent wines, as port, claret, &c. ought to be avoided. Malt-liquor that is fine, and of a moderate strength, is very proper. Buttermilk, whey, and other watery liquors are proper, and may be drank in turns, as the patient's inclination directs.

Those who are troubled with costiveness, ought, if possible, to remedy it by diet, as the constant use of medicines for that purpose is attended with many inconveniencies, and often with bad consequences.* I never knew any one get into a habit of taking medicine for keeping the body open, who could leave it off. In time the custom becomes necessary, and generally ends in a total relaxation of the bowels, indigestion, loss of appetite, wasting of the strength, and death.

When the body cannot be kept open without medicine, we would recommend gentle doses of rhubarb to be taken twice or thrice a-week. This is not so near injurious to the stomach as aloes, jalap, or the other drastic purgatives so much in use. Infusions of senna and manna may likewise be taken, or half an ounce of soluble tartar dissolved in water-gruel. About the size of a nutmeg of lenitive electuary taken twice or thrice a-day generally answers the purpose very well. See *Diseases of Child-bed Women*.

WANT OF APPETITE. (*Anorexia.*)

THIS may proceed from a foul stomach; indigestion; the want of free air and exercise; grief, fear, anxiety, or any of the depressing passions; excessive heat; the use of strong broths, fat meats, or any thing that palls the appetite, or is hard of digestion; the immoderate use of strong liquors, tea, tobacco, opium, &c.

The patient ought, if possible, to make choice of an open dry air; to take exercise daily on horseback or in a carriage; to rise

* The learned Dr. Arbuthnot advises those who are troubled with costiveness to use animal oils, as fresh butter, cream, marrow, fat broths, especially those made of the internal parts of animals, as the liver, heart, midriff, &c. He likewise recommends the expressed oils of mild vegetables, as olives, almonds, pistachios, and the fruits themselves; all oily and mild fruits, as figs; decoctions of mealy vegetables: these lubricate the intestines; some saponaceous substances which stimulate gently, as honey, hydromel, or boiled honey and water, unrefined sugar, &c.

The doctor observes, that such lenitive substances are proper for persons of dry atrabilarian constitutions, who are subject to astriction of the belly, and the piles, and will operate when stronger medicinal substances are sometimes ineffectual; but that such lenitive diet hurts those whose bowels are weak and lax. He likewise observes, that all watery substances are lenitive, and that even common water, whey, sour milk, and butter-milk, have that effect: that new milk, especially asses' milk, stimulates still more when it sours on the stomach; and that whey turned sour will purge strongly.

betimes; and to avoid all intense thought. He should use a diet of easy digestion; and should avoid excessive heat and great fatigue.

If want of appetite proceed from errors in diet, or any other part of the patient's regimen, it ought to be changed. If nausea and retchings show that the stomach is loaded with crudities, a vomit will be of service. After this a gentle purge or two of rhubarb, or any of the bitter purging salts, may be taken. The patient ought next to use some of the stomachic bitters infused in wine. Though gentle evacuations be necessary, yet strong purges and vomits are to be avoided, as they weaken the stomach, and hurt digestion. After proper evacuations, bitter elixirs and tinctures with aromatics may be used.

Sulphuric acid is an excellent medicine in most cases of indigestion, weakness of the stomach, or want of appetite. From twenty to thirty drops of it may be taken twice or thrice a day in a glass of wine or water. It may likewise be mixed with the tincture of the bark, one drachm of the former to an ounce of the latter, and two tea-spoonsful of it taken in wine and water, as above.

The chalybeate waters, if drank in moderation, are generally of considerable service in this case. The salt water has likewise good effects; but it must not be used too freely. The waters of Harrowgate, Scarborough, Moffat, and most other spas in Britain, may be used with advantage. We would advise all who are afflicted with indigestion and want of appetite, to repair to those places of public rendezvous. The very change of air and the cheerful company, will be of service; not to mention the exercise, dissipation, amusements, &c.

A want of appetite and loathing of food is not usually an original affection, but prevails as a symptom of some other disease, such as indigestion, and is therefore, to be obviated by aromatics, bitters, bark joined with chalybeates, sulphuric acid, &c. as under that head. In spontaneous anorexy or loss of appetite, where the stomach is loaded with bile, an emetic in the evening, with some kind of stomach purgative next morning, will seldom fail to effect a cure.—See *Indigestion*.

Heart-Burn. (*Cardialgia.*)

What is commonly called the *heart-burn* is not a disease of that organ, but an uneasy sensation of heat or acrimony about the pit of the stomach, which is sometimes attended with anxiety, nausea, and vomiting.

It may proceed from debility of the stomach, indigestion, bile, the abounding of an acid in the stomach, &c. Persons who are liable to this complaint ought to avoid stale liquors, acids, windy or greasy aliments, and should never use violent exercise soon after a plentiful meal. I know many persons who never fail to have the heart-burn if they ride soon after dinner, provided they have drank ale, wine, or any fermented liquor; but are never troubled with it when they have drank rum or brandy and water without any sugar or acid.

When the heart-burn proceeds from a debility of the stomach, or indigestion, the patient ought to take a dose or two of rhubarb; afterwards he may use infusions of the Peruvian bark, or any oth-

er of the stomachic bitters, in wine or brandy. Drinking a cup of camomile tea, with fifteen or twenty drops of elixir of vitriol in it, twice or thrice a day, will strengthen the stomach and promote digestion. Exercise in the open air will likewise be of use.

When bilious humours occasion the heart-burn, a tea-spoonful of the sweet spirits of nitre in a glass of water, or a cup of tea, will generally give ease. If it proceeds from the use of greasy aliments, a dram of brandy or rum may be taken.

If acidity or sourness of the stomach occasions the heart-burn, absorbents are the proper medicines. In this case an ounce of powdered chalk, half an ounce of fine sugar, and a quarter of an ounce of gum arabic, may be mixed in an English quart of water, and a tea-cupful of it taken as often as is necessary. Such as do not choose chalk, may take a tea-spoonful of prepared oyster shells, or of the powder called crabs eyes, in a glass of cinnamon or peppermint water. But the safest and best absorbent is *magnesia alba*. This not only acts as an absorbent, but likewise as a purgative; whereas chalk, and other absorbents of that kind, are apt to lie in the intestines, and occasion obstructions. This powder is not disagreeable, and may be taken in a cup of tea, or a glass of mint water. A large tea-spoonful is the usual dose; but it may be taken in a much greater quantity when there is occasion. These things are now generally made up into lozenges for the convenience of being carried in the pocket, and taken at pleasure.*

If wind be the cause of this complaint, the most proper medicines are those called carminatives; as aniseeds, juniper berries, ginger, canella alba, cardamom seeds, &c. These may either be chewed, or infused in wine, brandy, or other spirits; but these ought never to be used, unless they are absolutely necessary, as they are only drams in a dry form, and very pernicious to the stomach. One of the safest medicines of this kind is the tincture made by infusing an ounce of rhubarb, and a quarter of an ounce of the lesser cardamom seeds, in an English pint of brandy. After this has digested for two or three days, it ought to be strained, and four ounces of white sugar candy added to it. It must stand to digest a second time till the sugar be dissolved. A table-spoonful of it may be taken occasionally for a dose.

I have frequently known the heart-burn cured, particularly in pregnant women, by chewing green tea. Two table-spoonsful of what is called the milk of gum ammoniac, taken once or twice a-day, will sometimes cure the heart-burn. See *Diseases of Pregnancy*.

As pregnant women are very subject to this uneasy sensation, they should first consider, whether it proceeds from any of the causes already explained; in which case the medicines prescribed under each head will probably remove it. But if the internal sense of heat be owing to the state of pregnancy itself; if it arises from the consent between the stomach and the womb, and is not accompanied with much spitting or any acid eructations, the white of an egg, mixed with a little sugar and water, will often afford the only relief that can be expected for some time.

* The heart-burn, if very troublesome, may be almost immediately removed, by taking fifteen or twenty drops of the purified soap lees, the aqua kali puri of the shops, in a cup of linseed tea, or of milk. A. P. B.

Nervous Diseases. *(Neuroses.)*

Of all diseases incident to mankind, those of the nervous kind are the most complicated and difficult to cure. A volume would not be sufficient to point out their various appearances. They imitate almost every disease; and are seldom alike in two different persons, or even the same person at different times. Proteus-like, they are continually changing shape: and upon every fresh attack, the patient thinks he feels symptoms which he never experienced before. Nor do they only affect the body; the mind likewise suffers, and is often thereby rendered extremely weak and peevish. The low spirits, timorousness, malancholy, and fickleness of temper, which generally attend nervous disorders, induce many to believe that they are entirely diseases of the mind; but this change of temper is rather a consequence, than the cause of nervous diseases.

Causes.—Every thing that tends to relax or weaken the body, disposes it to nervous diseases, as indolence, excessive venery, drinking too much tea, or other weak watery liquors warm, frequent bleeding, purging, vomiting, &c. Whatever hurts the digestion, or prevents the proper assimilation of the food, has likewise this effect; as long fasting, excess in eating or drinking, the use of windy, crude, or unwholesome aliments, an unfavourable posture of the body, &c.

Nervous disorders often proceed from intense application to study. Indeed, few studious persons are entirely free from them. Nor is this at all to be wondered at; intense thinking not only preys upon the spirits, but prevents the person from taking proper exercise, by which means the digestion is impaired, the nourishment prevented, the solids relaxed, and the whole mass of humours vitiated. Grief and disappointment likewise produce the same effects. I have known more nervous patients who dated the commencement of their disorders from the loss of a husband, a favourite child, or from some disappointment in life, than from any other cause. In a word, whatever weakens the body, or depresses the spirits, may occasion nervous disorders; as unwholesome air, want of sleep, great fatigue, disagreeable apprehensions, anxiety, vexation, &c.

Symptoms.—We shall only mention some of the most general symptoms of these disorders, as it would be both a useless and impracticable task to enumerate the whole. They generally begin with windy inflations or distentions of the stomach and intestines; the appetite and digestion are usually bad; yet sometimes there is an uncommon craving for food, and a quick digestion. The food often turns sour on the stomach; and the patient is troubled with vomiting of clear water, tough phlegm, or a blackish-coloured liquor resembling the grounds of coffee. Excruciating pains are often felt about the navel, attended with a rumbling or murmuring noise in the bowels. The body is sometimes loose, but more commonly bound, which occasions a retention of wind and great uneasiness.

The urine is sometimes in small quantity, and at other times

very copious and quite clear. There is a great tightness of the breast, with difficulty of breathing; violent palpitations of the heart; sudden flushings of heat in various parts of the body; at other times a sense of cold, as if water were poured on them; fly ing pains in the arms and limbs, pains in the back and belly, re sembling those occasioned by gravel; the pulse very variable, sometimes uncommonly slow, and at other times very quick; yawning, the hiccup, frequent sighing, and a sense of suffocation, as if from a ball or lump in the throat; alternate fits of crying and convulsive laughing; the sleep is unsound, and seldom refreshing; and the patient is often troubled with the nightmare.

As the disease increases, the patient is molested with vertigo, syncope, head-achs, cramps, and fixed pains in various parts of the body; the eyes are clouded, and often affected with pain and dryness; there is a noise in the ears, and often a dulness of hearing; in short, the whole animal functions are impaired. The mind is disturbed on the most trivial occasions, and is hurried into the most perverse commotions, inquietudes, terror, sadness, anger, diffidence, &c. The patient is apt to entertain wild imaginations, and extravagant fancies; the memory becomes weak, and the judgment fails.

Nothing is more characteristic of this disease than a constant dread of death. This renders those unhappy persons who labour under it peevish, fickle, impatient, and apt to run from one physician to another; which is one reason why they seldom reap any benefit from medicine, as they have not sufficient resolution to persist in any one course till it has time to produce its proper effects. They are likewise apt to imagine that they labour under diseases from which they are quite free; and are very angry if any one attempts to set them right, or laugh them out of their ridiculous notions.

Regimen.—Persons afflicted with nervous diseases ought never to fast long. Their food should be solid and nourishing, but of easy digestion. Fat meats and heavy sauces are hurtful. All excess should be carefully avoided. They ought never to eat more at a time than they can easily digest; and heavy suppers are to be avoided. If they feel themselves weak and faint between meals, they ought to eat a bit of bread, and drink a glass of wine. Though wine in excess enfeebles the body, and impairs the faculties of the mind, yet taken in moderation, it strengthens the stomach, and promotes digestion. Wine and water is a very proper drink at meals; but if wine sours on the stomach, or the patient is much troubled with wind, brandy and water will answer better. Every thing that is windy or hard of digestion must be avoided. All weak and warm liquors are hurtful; as tea, coffee, punch, &c. People may find a temporary relief in the use of these, but they always increase the malady, as they weaken the stomach, and hurt digestion. Above all things, drams are to be avoided. Whatever immediate ease the patient may feel from the use of ardent spirits, they are sure to aggravate the malady, and prove certain poisons at last. These cautions are the more necessary, as most nervous people are peculiarly fond of tea and ardent spirits; to the use of which many of them fall victims.

Exercise in nervous disorders is superior to all medicines. Riding on horseback is generally esteemed the best, as it gives motion to the whole body, without fatiguing it. I have known some patients, however, with whom walking agreed better, and others who were most benefitted by riding in a carriage. Every one ought to use that which he finds most beneficial. Long sea-voyages have an excellent effect; and to those who have sufficient resolution, we would by all means recommend this course. Even change of place, and the sight of new objects, by diverting the mind, have a great tendency to remove these complaints. For this reason a long journey, or a voyage, is of much more advantage than riding short journeys near home.

A cool dry air is proper, as it braces and invigorates the whole body. Few things tend more to relax and enervate than hot air, especially that which is rendered so by great fires, or stoves in small apartments. But when the stomach or bowels are weak, the body ought to be well guarded against cold, especially in winter, by wearing a thin flannel waistcoat next the skin. This will keep up an equal perspiration, and defend the alimentary canal from many impressions to which it would otherwise be subject upon every sudden change from warm to cold weather. Rubbing the body frequently with a flesh-brush, or a coarse linen-cloth, is likewise beneficial, as it promotes the circulation, perspiration, &c. Persons who have weak nerves ought to rise early, and take exercise before breakfast, as lying too long a-bed cannot fail to relax the solids. They ought likewise to be diverted, and to be kept as easy and cheerful as possible. There is not any thing which hurts the nervous system, or weakens the digestive powers, more than fear, grief, or anxiety.

Medicines.—Though nervous diseases are seldom radically cured, yet their symptoms may sometimes be alleviated, and the patient's life rendered at least more comfortable by proper medicines.

When the patient is costive, he ought to take a little rhubarb, or some other mild purgative, and should never suffer his body to be long bound. All strong and violent purgatives are, however, to be avoided, as aloes, jalap, &c. I have generally seen an infusion of senna and rhubarb in brandy answer very well. This may be made of any strength, and taken in such quantity as the patient finds necessary. When the digestion is bad, or the stomach relaxed and weak, the following infusion of Peruvian bark and other bitters may be used with advantage:—

Take of Peruvian bark an ounce, gentian-root, orange-peel, and coriander-seed, of each half an ounce; let these ingredients be all bruised in a mortar, and infused in a bottle of brandy or rum, for the space of five or six days. A table-spoonful of the strained liquor may be taken in half a glass of water, an hour before breakfast, dinner, and supper.

Few things tend more to strengthen the nervous system than cold bathing. This practice, if duly persisted in, will produce very extraordinary effects; but when the liver or other *viscera* are obstructed, or otherwise unsound, the cold bath is improper. It is

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bowels inflated with wind; the complexion pale; the pulse slow and weak. The functions of the mind are also greatly perverted, insomuch that the patient often imagines himself dead, or changed into some other animal. Some have imagined their bodies were made of glass, or other brittle substances, and were afraid to move lest they should be broken to pieces. The unhappy patient, in this case, unless carefully watched, is apt to put an end to his own miserable life.

When the disease is owing to any obstruction of customary evacuations, or any bodily disorder, it is easier cured than when it proceeds from affections of the mind, or an hereditary taint. A discharge of blood from the nose, looseness, scabby eruptions, the bleeding piles, or the *menses*, sometimes carry off this disease.

REGIMEN.—The diet should consist chiefly of vegetables of a cooling and opening quality. Animal food, especially salted or smoke-dried fish or flesh, ought to be avoided. All kinds of shell-fish are bad. Aliments prepared with onions, garlic, or any thing that generates thick blood, are likewise improper. All kinds of fruits that are wholesome may be eaten with advantage. Boerhaave gives an instance of a patient who, by a long use of whey, water, and garden-fruit, recovered, after having evacuated a great quantity of black-coloured matter.

Strong liquors of every kind ought to be avoided as poison. The most proper drink is water, whey, or very small beer. Tea and coffee are improper. If honey agrees with the patient, it may be eaten freely, or his drink may be sweetened with it. Infusions of balm-leaves, penny-royal, the roots of wild valerian, or the flowers of the lime-tree, may be drank freely, either by themselves, or sweetened with honey, as the patient shall choose.

The patient ought to take as much exercise in the open air as he can bear. This helps to dissolve viscid humours, it removes obstructions, promotes perspiration, and all the other secretions. Every kind of madness is attended with a diminished perspiration; all means ought therefore to be used to promote that necessary and salutary discharge. Nothing can have a more direct tendency to increase the disease, than confining the patient to a close apartment. Were he forced to ride or walk a certain number of miles every day, it would tend greatly to alleviate his disorder; but it would have still a better effect, if he were obliged to labour a piece of ground. By digging, hoeing, planting, sowing, &c. both the body and mind would be exercised. A long journey, or a voyage, especially towards a warmer climate, with agreeable companions, has often very happy effects. A plan of this kind, with a strict attention to diet, is a much more rational method of cure, than confining the patient within doors, and plying him with medicines.

MEDICINE.—In the cure of this disease, particular attention must be paid to the mind. When the patient is in a low state, his mind ought to be soothed and diverted with variety of amusements, as entertaining stories, pastimes, music, &c. This seems to have been the method of curing melancholy among the Jews, as we learn from the story of King Saul: and, indeed, it is a very rational

one. Nothing can remove diseases of the mind so effectually as applications to the mind itself, the most efficacious of which is music. The patient's company ought likewise to consist of such persons as are agreeable to him. People in this state are apt to conceive unaccountable aversions against particular persons; and the very sight of such persons is sufficient to distract their minds, and throw them into the utmost perturbation. In all kinds of madness, it is better to soothe and calm the mind, than to ruffle it by contradiction.

When the patient is high, evacuations are necessary. In this case he must be bled, and have his body kept open by purging medicines, as manna, rhubarb, cream of tartar, or the soluble tartar. I have seen the last have very happy effects. It may be taken in the dose of half an ounce, dissolved in water-gruel, every day, for several weeks, or even for months, if necessary. More or less may be given according as it operates. Vomits have likewise a good effect; but they must be pretty strong, otherwise they will not operate.

Whatever increases the secretion of urine or promotes perspiration, has a tendency to remove this disease. Both these secretions may be promoted by the use of nitre and vinegar. Half a drachm of purified nitre may be given three or four times a-day in any manner that is most agreeable to the patient; and an ounce and a half of distilled vinegar may be daily mixed with his drink. Dr. Locker seems to think vinegar the best medicine that can be given in this disease.

Camphor and musk have likewise been used in this case with advantage. Ten or twelve grains of camphor may be rubbed in a mortar with half a drachm of nitre, and taken twice a-day, or oftener, if the stomach will bear it. If it will not sit upon the stomach in this form, it may be made into pills with gum assafœtida and Russian castor, and taken in the quantity above directed. If musk is to be administered, a scruple or twenty-five grains of it may be made into a bolus with a little honey or common syrup, and taken twice or thrice a-day. The antimonial wine is by some extolled for the cure of madness; it may be taken in a dose of forty or fifty drops twice or thrice a-day in a cup of tea. We do not mean that all these medicines should be administered at once; but whichever of them is given, must be duly persisted in, and where one fails another may be tried.

As it is very difficult to induce patients in this disease to take medicines, we shall mention a few outward applications which sometimes do good; the principal of these are issues, setons, and warm bathing. Issues may be made in any part of the body, but they generally have the best effect near the spine. The discharge from these may be greatly promoted by dressing them with the mild blistering ointment, and keeping what are commonly called the orrice peas in them. The most proper place for a seton is between the shoulder blades; and it ought to be placed upwards and downwards, or in the direction of the spine.

Madness or delirium, which proceeds from mere weakness, requires a different treatment. This must be removed by nourishing diet, exercise proportioned to the patient's strength, and cor-

dial medicines. All evacuations are carefully to be avoided. The patient may take frequently a glass of good wine, in which a little Peruvian bark has been infused.

Palsy. *(Paralysis.)*

Palsy is a loss or diminution of sense or motion, or of both, in one or more parts of the body. Of all the affections called nervous, this is the most suddenly fatal. It is more or less dangerous, according to the importance of the part affected. A palsy of the heart, lungs, or any part necessary to life, is mortal. When it affects the stomach, the intestines, or the bladder, it is highly dangerous. If the face be affected, the case is bad, as it shows that the disease proceeds from the brain. When the part affected feels cold, is insensible or wastes away, or when the judgment and memory begin to fail, there is small hope of a cure.

In some instances the disease is confined to a particular part or set of muscles; but it more usually happens that one entire part of the body from the head downwards is affected, which is known by the name of hemiplegia. If the power of motion and sense of feeling in the half of the body, taken transversely, be impaired, the complaint is denominated paraplegia.

Causes.—The immediate cause of palsy is any thing that prevents the regular exertion of the nervous power upon any particular muscle or part of the body. The occasional and predisposing causes are various, as drunkenness; wounds of the brain, or spinal marrow; pressure upon the brain, or nerves; very cold or damp air; the suppression of customary evacuations; sudden fear; want of exercise; or whatever greatly relaxes the system, as drinking much tea,* or coffee. The palsy may likewise proceed from wounds of the nerves themselves, from the poisonous fumes of metals or minerals, as mercury, lead, arsenic, &c.

When palsy attacks any vital part, such as the brain, heart, or lungs, it soon terminates fatally. When it arises as a consequence of apoplexy, it generally proves very difficult of cure. Paralytic affections of the lower extremities, ensuing from any injury done to the spinal marrow, by blows and other accidents, usually prove incurable.

Treatment.—In young persons of a full habit, the palsy must be treated in the same manner as the sanguine apoplexy. The patient must be bled, blistered, and have his body opened by sharp clysters or purgative medicines. But in old age, or when the disease proceeds from relaxation or debility, which is generally the case, a quite contrary course must be pursued. The diet must be warm and invigorating, seasoned with spicy and aromatic vegetables, as mustard, horse-radish, &c. The drink may be generous

*Many people imagine, that tea has no tendency to hurt the nerves, and that drinking the same quantity of warm water would be equally pernicious. This, however, seems to be a mistake. Many persons drink three or four cups of warm milk and water daily, without feeling any bad consequences: yet the same quantity of tea will make their hands shake for twenty-four hours. That tea affects the nerves, is likewise evident from its preventing sleep, occasioning giddiness, dimness of the sight, sickness, &c.

wine, mustard-whey, or brandy and water. Friction with the flesh brush, or a warm hand, is extremely proper, especially on the parts affected. Blistering plasters may likewise be applied to the affected parts with advantage. When this cannot be done, they may be rubbed with the volatile liniment.* One of the best external applications is electricity. The shocks or other vibrations should be received on the part affected; and they ought daily to be repeated for several weeks.

As a gentle stimulus to the parts, urtication may sometimes be used, warm bathing, the bath waters, electricity, galvanism, are all attended, in many cases, with much benefit, therefore ought not to be omitted.

When the disease affects several different parts of the body, as in hemiplegia and paraplegia, stimulants should be used both internally and externally. Those in most use are mustard seed, horseradish, and volatile alkaline salts or spirits, and ether, as directed below.†

Vomits are very beneficial in this kind of palsy, and ought frequently to be administered. Cephalic snuff, or any thing that makes the patient sneeze, is likewise of use. Some pretend to have found great benefit from rubbing the parts affected with nettles; but this does not seem to be any way preferable to blistering. If the tongue be affected, the patient may gargle his mouth frequently with brandy and mustard; or he may hold a bit of sugar in his mouth, wet with the palsy drops, or compound spirits of lavender. The wild valerian root is a very proper medicine in this case. It may either be taken in an infusion with sage leaves, or half a drachm of it in powder may be given in a glass of wine three or four times a day. If the patient cannot use the valerian, he may take of *sal volatile oleosum*, compound spirits of lavender, and tincture of castor, each half an ounce; mix these together, and take forty or fifty drops in a glass of wine three or four times a day. A table-spoonful of mustard seed taken frequently is a very good medicine. The patient ought likewise to chew cinnamon, bark, ginger, or other warm spiceries.

Although in every instance a dangerous disease, palsy, particularly at an advanced period of life, is sometimes removed by the occurrence of a diarrhœa or fever. A feeling of warmth, and a slight pricking pain, as if stung by ants in the parts affected, with returning sensation and motion, are favourable symptoms.

Exercise is of the utmost importance in the palsy; but the patient must be aware of cold, damp, and moist air. He ought to wear flannel next his skin; and, if possible, should remove into a warmer climate.

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* Take Compound Camphor Liniment, 1 ounce.
Oil of Turpentine, 3 drachms.
Make a liniment.

or

Take Spirits of Camphor, 1 ounce.
Tincture of Spanish Flies, 2 drachms.
Solution of Subcarbonate of Ammonia, ½ ounce.

† Take White Mustard Seed,
Two tea-spoonsful in a tea-cupful of cold water.

or

Take White Mustard Seed bruised,
Horse-radish, of each, 2 ounces.
Orange Peel, ½ ounce.
Pump Water, 2 pints.
Make a decoction, and strain, of which a tea-cupful may be taken three times a-day; adding occasionally 20 drops of the Tincture of Valerian.

Of the Epilepsy, or Falling Sickness.

The epilepsy is a sudden deprivation of all the senses wherein the patient falls suddenly down, and is affected with violent convulsive motions. Children, especially those who are delicately brought up, are most subject to it. It more frequently attacks men than women, and is very difficult to cure. When the epilepsy attacks children, there is reason to hope it may go off about the time of puberty. When it attacks any person after twenty years of age, the cure is difficult; but when after forty, a cure is hardly to be expected. If the fit continues only for a short space, and returns seldom, there is reason to hope; but if it continues long, and returns frequently, the prospect is bad. It is a very unfavourable symptom when the patient is seized with the fits in his sleep.

The returns of epilepsy are periodical, and its paroxysms commence more frequently in the night than in the day, being somewhat connected with sleep. It is one of those diseases that is frequently counterfeited by impostors to excite charity. It is occasionally combined with mania: and is properly distinguished into sympathic and idiopathic; being considered as sympathic when arising as an affection of some other parts of the body, as acidity in the stomach, worms, teething, &c. and idiopathic, when it is a primary disease,* neither dependent on, nor proceeding from any other.

Causes.—The epilepsy is sometimes hereditary. It may likewise proceed from blows, bruises, or wounds on the head; a collection of water, blood, or serous humours in the brain; a polypus; tumours or concretions within the skull; excessive drinking; intense study; excess of venery; worms; teething; suppression of customary evacuations; too great emptiness or repletion; violent passions or affections of the mind, as fear, joy, &c.; hysteric affections; contagion received into the body, as the infection of the small-pox, measles, &c.

Symptoms.—An epileptic fit is generally preceded by unusual weariness; pain of the head, dullness, giddiness, noise in the ears, dimness of the sight, palpitation of the heart, disturbed sleep, difficult breathing, the bowels are inflated with wind, the urine is in great quantity, but thin; the complexion is pale, the extremities are cold, and the patient often feels, as it were, a stream of cold air ascending towards his head.

In the fit, the patient generally makes an unusual noise; his thumbs are drawn in towards the palms of his hands, his eyes are distorted, he starts, and foams at the mouth, his extremities are bent or twisted various ways, he often discharges his seed, urine, and fæces involuntary, and is quite destitute of all sense and reason. After the fit is over, his senses gradually return, and he complains of a kind of stupor, weariness, and pain of his head; but has no remembrance of what happened to him during the fit.

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*We are informed by Dr. Parry, in his Elements of Pathology and Therapeutics, that whatever may be the primary cause of epilepsy, it usually depends immediately on excessive impetus of blood in the vessels of the brain. Ed.

The fits are sometimes excited by violent affections of the mind, a debauch of liquor, excessive heat, cold, or the like.

This disease, from the difficulty of investigating its causes, and its strange symptoms, was formerly attributed to the wrath of the gods, or the agency of evil spirits. In modern times, it has often, by the vulgar, been imputed to witchcraft and fascination. It depends, however, as much upon natural causes as any other malady; and its cure may often be effected by persisting in the use of proper means.

Regimen.—Epileptic patients ought, if possible, to breathe a pure and free air. Their diet should be light, but nourishing. They ought to drink nothing strong, to avoid swine's flesh, waterfowl, and likewise all windy and oily vegetables, as cabbage, nuts, &c. They ought to keep themselves cheerful, carefully guarding against all violent passions, as anger, fear, excessive joy, and the like. Exercise is likewise of great use; but the patient must be careful to avoid all extremes either of heat or cold, all dangerous situations, as standing upon precipices, riding, deep waters, and such like.

Medicine.—The intentions of cure must vary according to the cause of the disease. If the patient be of a sanguine temperament, and there be reason to fear an obstruction in the brain, bleeding and other evacuations will be necessary. When the disease is occasioned by the stoppage of customary evacuations, these, if possible, must be restored; if this cannot be done, others may be substituted in their place. Issues or setons in this case have often a very good effect. When there is reason to believe that the disease proceeds from worms, proper medicines must be used to kill, or carry off these vermin. When the disease proceeds from teething, the body should be kept open by emollient clysters, the feet frequently bathed in warm water, and, if the fits prove obstinate, a blistering-plaster may be put between the shoulders. The same method is to be followed, when epileptic fits precede the eruption of the small-pox or measles, &c.

When the disease is hereditary, or proceeds from a wrong formation of the brain, a cure is not to be expected. When it is owing to a debility, or too great an irritability of the nervous system, such medicines as tend to brace and strengthen the nerves may be used, as the Peruvian bark, and steel, &c.

As a tonic, the cinchona bark* has been much employed in the cure of this disease. It is best, however, adapted to those epilepsies which recur at certain periods, and which are without plethora; in which cases, if given in a considerable quantity before the expected recurrence of the fit, it will most likely prove serviceable; and when taken for any length of time, it may be combined with valerian, gentian, &c. as in some of the forms below.

Metallic tonics have been found more powerful than the vegetable ones, and are therefore more generally employed. Among

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*Take Decoction of Bark, 10 drachms. Valerian, ½ drachm.
Tincture of Bark, 2 drachms. Mix for a draught, to be taken three times
Tincture of Ammoniated a-day.

these the oxyde of zinc* has of late been highly extolled for the cure of the epilepsy. Though this medicine will not be found to answer the expectations which have been raised concerning it, yet in obstinate epileptic cases it deserves a trial. The dose is from one to three or four grains, which may be taken either in pills or a bolus, as the patient inclines. The best method is to begin with a single grain four or five times a-day, and gradually to increase the dose as far as the patient can bear it. I have often known this medicine, when duly persisted in, prove beneficial. Sulphate and carbonate of iron; the ammoniated iron; ammoniated copper† of the Edinburgh pharmacopœa (in small doses, increasing it gradually to as much as the stomach will bear.) The powder and other preparations of tin, have all been used in the cure of epilepsy, but their effects appear rather doubtful.

Musk‡ has sometimes been found to succeed in epilepsy; ten or twelve grains of which, with the same quantity of factitious cinnabar, may be made up into a bolus, and taken every night and morning.

The nitrate of silver,§ in the cure of epilepsy, has been found to be a valuable medicine, even where the disease has been of many years' standing, and had resisted the powers of others. It is advised to begin with a quarter of a grain three times a-day (for an adult) gradually increasing it afterwards to one grain, or one and a half, in the form of a pill. The oil of turpentine has been used in some cases of epilepsy with manifest success, as well as in other spasmodic diseases. The dose should be considerable to produce any effect, e. g. an ounce for a delicate female; an ounce and a half for a robust female, or small man; and about two ounces for a robust man. It is best exhibited in milk; and the fittest time for taking it will be early in the morning, upon an empty stomach. In some of the worst cases of epilepsy, in which the fits were long and violent; as well as frequent throughout the course of the day, and where the disease has been of long standing, electricity has been found to render them weaker, and to reduce their number very materially in a short space of time. When other means fail to produce the desired effect, galvanism may be tried.

Convulsion fits proceed from the same causes, and must be treated in the same manner as the epilepsy.

St. Vitus's Dance. *(Chorea Sancti Viti.)*

'The disease termed Chorea, or St. Vitus's Dance, generally attacks young people from the eighth year of their age till the

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*Take Oxyde of Zinc.
Compound Powder of Cinnamon, 15 grains.
Bark in Powder, 1 drachm.
Mix and divide into 12 papers, of which take one three times a-day.

†Take Ammoniated Copper, 1 grain.
Confection of Orange Peel, 10 grs.
Make a bolus, to be taken twice a-day.

‡Take Musk.
Castor, of each, 10 grains.
Opium, ½ grain.
Confection of Roses, enough.
Make a bolus, to be taken every 6 hours.

§Take Nitrate of Silver, 3 grains.
Dissolve it in a few drops of distilled water, then add crumbs of bread, a sufficiency to form the mass, to be divided into 20 pills, of which one or two may be taken two or three times a-day.

time of puberty; though it has been sometimes found to occur at a more advanced period of life. Females are more liable to it than males. The first symptom of this disease is generally a slight lameness of one leg, which the patient drags a little, and seems to have lost the power of duly regulating its action. The arms next become affected, and are thrown into various contortions, which deprive persons affected with this disease of the power of feeding themselves, and their awkward gesticulations in attempting to bring articles of food towards their mouth appear ridiculous. One side of the body is in general more affected than the other. The tongue participates of the general disease of the system, so as to render articulation nearly unintelligible. If the disease continue long, it materially injures the constitution, sleep becomes disturbed or is in great measure prevented, the mental faculties are impaired, and revert to childishness; pain is often felt in the stomach, the appetite for food is extremely irregular, being occasionally ravenous, the countenance appears pale and languid, and the body and limbs are much emaciated.

The feebleness and debility caused by this disease seems to have influenced the routine of practice here pursued in the treatment of it. The remedies generally recommended are accordingly of the tonic class, such as Peruvian-bark, steel, bitters, preparations of zinc and copper, cold bathing, and electricity. Notwithstanding the administration of these remedies, chorea has generally proved a tedious and untractable disease, continuing to harass the patient for months and even years, not unfrequently occasioning permanent injury to the faculties of the mind as well as the powers of the body.

Dr. James Hamilton of Edinburgh in his late valuable publication on "The utility and administration of purgative medicines," has promulgated so just a view of the nature and origin of the complaint now under consideration, accompanied with a mode of cure so judicious and successful, that it becomes a duty to diffuse a knowledge of his opinions and practice as extensively as possible.

Respecting the plan of treating this disease which has hitherto prevailed, the Doctor observes, "It is melancholy to reflect that months and years, the most valuable in respect of after-life, should glide on, while an effectual check is given to the improvement of the mind, the cultivation of useful learning, or the acquisition of necessary arts; with the hazard of permanent fatuity, to a certain extent, or of a grotesque appearance, from the unconquerable remains of irregular motions being imposed on the young sufferers for life. To these certain consequences of protracted chorea, I will add, the danger that attends it; I have no doubt, but it must have, on some occasions, proved fatal."

The remedies which that enlightened practitioner has found eminently successful in the cure of this disease, consist of active purgatives. From three to five grains of calomel combined with ten or fifteen of jalap; or a sufficient quantity of the aloetic pill, occasionally interposing a proper dose of the tartarized infusion of senna, are so administered as to produce full purging daily, which is to be kept up till the progress of the disease is found to be arrested.

The emaciation and apparent debility of the subjects of this disease, and the unfounded alarms of their friends lest these symptoms should be increased by evacuations, are apt to shake the resolution of the practitioner, and prevent him from following out this practice to a due extent. But the diminution of the involuntary motions, the general appearance of returning health visible in the countenance, and the regularity of the appetite for food, are the circumstances that should regulate his conduct; and their presence ought to encourage him to proceed notwithstanding the weakness of the patient. The quantity of fœces discharged during the administration of these medicines is sometimes so enormous as to exceed belief; and this circumstance affords grounds to suppose, either that their retention, or the torpor and inactivity of the bowels, is a chief source of this complaint. The evacuations from the bowels ought to be daily and attentively inspected, and the return of their natural appearance and quantity will be found to indicate and keep pace with the renovation of health.

Dr. H. adds, "Since I have employed purgatives in chorea, I have been disappointed in effecting a cure in one case only." To this statement I can add, my testimony of the complete success of this mode of treatment in three instances in which I have made trial of it.

When the complaint is subdued, the complete restoration of health and vigour is best effected by the use of a light and nutritious diet, with moderate quantity of wine, due exercise in the open air, and bathing in the sea if convenient. A powder composed of five grains of the rust of iron, together with ten of rhubarb, and an equal quantity of fine sugar, may also be taken every morning for some weeks with advantage.' A. P. B.

Some people, particularly pregnant women, are very subject to spasmodic contractions of the joints, coming on periodically, and attended with very violent pain; for the removal of these, anodyne frictions appear to be the best remedy.

The Hiccup.

The hiccup is a spasmodic or convulsive affection of the stomach and midriff, arising from any cause that irritates their nervous fibres.

It may proceed from excess in eating or drinking; from a hurt in the stomach; poisons; wind; inflammations or scirrhous tumours of the stomach, intestines, bladder, midriff, or the rest of the viscera. In gangrenes, acute and malignant fevers, a hiccup is often the forerunner of death.

When the hiccup proceeds from the use of aliment that is flatulent or hard of digestion, a draught of generous wine, or a dram of any spirituous liquor will generally remove it. If poison be the cause, plenty of oil and milk must be drank, as has been formerly recommended. When it proceeds from an inflammation of the stomach, &c. it is very dangerous. In this case the cooling regimen ought to be strictly observed. The patient must be bled, and take frequently a few drops of the sweet spirits of nitre in a cup of wine whey. His stomach should likewise be fomented with

cloths dipped in warm water, or have bladders filled with warm milk and water applied to it.

When the hiccup proceeds from a gangrene or mortification, the Peruvian bark, with other antiseptics, are the only medicines which have a chance to succeed. When it is a primary disease, and proceeds from a foul stomach, loaded either with a pituitous or a bilious humour, a gentle vomit and purge, if the patient be able to bear them, will be of service. If it arises from flatulencies, the carminative medicines directed for the heartburn must be used.

When the hiccup proves very obstinate, recourse must be had to the most powerful aromatic and antispasmodic medicines; the principal of these is musk; fifteen or twenty grains of which may be made into a bolus, and repeated occasionally. Opiates are likewise of service; but they must be used with caution. A bit of sugar dipped in compound spirits of lavender, or the volatile aromatic tincture, may be taken frequently. External applications are sometimes also beneficial; as the stomach plaster, or a cataplasm of the Venice treacle of the Edinburgh or London dispensatory, applied to the region of the stomach.

I lately attended a patient who had almost a constant hiccup for above nine weeks. It was frequently stopped by the use of musk, opium, wine, and other cordial and antispasmodic medicines, but always returned. Nothing, however, gave the patient so much ease as brisk small beer. By drinking freely of this the hiccup was often kept off for several days, which was more than could be done by the most powerful medicines. The patient was at length seized with a vomiting of blood, which soon put an end to his life. Upon opening the body a large scirrhous tumour was found near the pylorus, or right orifice of the stomach.

The hiccup may be removed by taking vinegar; or by a few drops of sulphuric acid taken in water.*

Cramp of the Stomach.

This disease often seizes people suddenly, is very dangerous, and requires immediate assistance. It is most incident to persons in the decline of life, especially the nervous, gouty, hysteric, and hypochondriac.

If the patient has any inclination to vomit he ought to take some draughts of warm water, or weak camomile tea, to cleanse his stomach. After this, if he has been costive, a laxative clyster may be given. He ought then to take laudanum. The best way of administering it is in a clyster. Sixty or seventy drops of liquid laudanum may be given in a clyster of warm water. This is much more certain than laudanum given by the mouth, which is often vomited, and in some cases increases the pain and spasms in the stomach.

If the pain and cramps return with great violence, after the effects of the anodyne clyster are over, another with an equal or larger quantity of opium, may be given: and every four or five

* I have frequently seen a very troublesome hiccup put a stop to by swallowing quickly a glass of the strong soda water in a state of brisk effervescence.—The common hiccup may in general be removed by taking a pinch of snuff, or any thing that will cause sneezing. A. P. B.

hours a bolus, with ten or twelve grains of musk, and half a drachm of the Venice treacle. In the mean time the stomach ought to be fomented with cloths dipped in warm water, or bladders filled with warm milk and water should be constantly applied to it. I have often seen these produce the most happy effects. The anodyne balsam may also be rubbed on the part affected; and antihysteric plaster worn upon it for some time after the cramps are removed, to prevent their return.

In very violent and lasting pains of the stomach, some blood ought to be let, unless the weakness of the patient forbids it. When the pain or cramps proceed from the suppression of the *menses*, bleeding is of use. If they be owing to the gout, recourse must be had to spirits, or some of the warm cordial waters. Blistering plasters ought likewise, in this case, to be applied to the ancles. I have often seen violent cramps and pains of the stomach removed by covering it with a large plaster of treacle of the London Dispensatory.

Sardonic Laugh. *(Risus Sardonicus.)*

This disease is principally characterised by a fit of laughter, arising without any evident cause, and often continuing in a violent degree for three or four nights, so far as to prevent the patient from sleeping. By its duration in this way great debility is produced, accompanied with frequency of the pulse, and other febrile symptoms; at which time it either proves fatal by its violence or ceases spontaneously.

For the removal of this disease, opium in large doses, musk, castor, asafœtida, camphor, ether, and other antispasmodics have usually been employed without effect; so that, indeed, we are hitherto unacquainted with any remedy that will prove effectual; the spontaneous cessation, therefore, of the fit is more to be trusted to than assistance from medicine.

The Night-mare. *(Incubus.)*

In this disease the patient, in time of sleep, imagines he feels an uncommon oppression of weight about his breast or stomach, which he can by no means shake off. He groans, and sometimes cries out, though oftener he attempts to speak in vain. Sometimes he imagines himself engaged with an enemy, and in danger of being killed, attempts to run away, but finds he cannot. Sometimes he fancies himself in a house that is on fire, or that he is in danger of being drowned in a river. He often thinks he is falling over a precipice, and the dread of being dashed to pieces suddenly awakes him.

This disorder has been supposed to proceed from too much blood; from a stagnation of blood in the brain, lungs, &c. But it is rather a nervous affection, and arises chiefly from indigestion. Hence we find that persons of weak nerves, who lead a sedentary life, and live full, are most commonly afflicted with the night-mare. Nothing tends more to produce it than heavy suppers, especially when eaten late, or the patient goes to bed soon after. Wind is likewise a very frequent cause of this disease; for which reason,

those who are afflicted with it ought to avoid all flatulent food. Deep thought, anxiety, or any thing that oppresses the mind ought also to be avoided. Sailors are very liable to this disease; hypochondriacs and pregnant women are also its victims, but males more frequently than females.

The night-mare is frequently occasioned by eating a full meal of animal food, and drinking freely of fermented liquor, after long fasting and bodily fatigue, by which the whole system is debilitated, and the digestive faculties consequently impaired. When in this state, the safest thing a person can take is tea with bread and butter, which will be found to alleviate fatigue much more completely than wine.

As persons afflicted with the night-mare generally moan, or make some noise in the fit, they should be waked, or spoken to by such as hear them, as the uneasiness generally goes off as soon as the patient is awake. Dr. Whyte says, he generally found a dram of brandy, taken at bed-time, prevent this disease. That, however, is a bad custom, and in time loses its effect. We would rather have the patient depend upon the use of food of easy digestion, cheerfulness, exercise through the day, and a light supper taken early, than to accustom himself to drams. A glass of peppermint water will often promote digestion as much as a glass of brandy, and is much safer. After a person of weak digestion, however, has eaten flatulent food, a dram may be necessary; in this case we would recommend it as the most proper medicine.

When the nightmare goes off, as frequently is the case, without the patient awaking, strange aberrations of mind are occasionally produced, which give origin to reputed visions and supernatual visitations, even among people of superior intellectual cultivation. The degree of consciousness, during a paroxysm of nightmare, is so much greater than ever happens in a dream, that the person who has had a vision of this kind cannot easily bring himself to acknowledge the deceit unless he awakes, or is aroused from his paroxysm, and discovers some incongruity in respect to time or place, which proves the transaction to be an illusion.

Persons who are young, and full of blood, if troubled with the night-mare, ought to take a purge frequently, use a spare diet, and exercise in the open air. The carbonate of soda, mixed with ale or porter, form an agreeable beverage for those liable to dyspeptic symptoms and incubus.

Swooning. *(Syncope.)*

People of weak nerves or delicate constitutions are liable to swoonings or fainting fits. These, indeed, are seldom dangerous when duly attended to; but when wholly neglected, or improperly treated, they often prove hurtful, and sometimes fatal.

The general causes of swoonings are, sudden transitions from cold to heat; breathing air that is deprived of its proper spring or elasticity; great fatigue; excessive weakness; loss of blood; long fasting; fear, grief, and other violent passions or affections of the mind.

It is well known, that persons who have been long exposed to

cold often faint, or fall into a swoon, upon coming into the house, especially if they drink hot liquor, or sit near a large fire. This might easily be prevented by people taking care not to go into a warm room immediately after they have been exposed to the cold air, to approach the fire gradually, and not to eat or drink any thing hot, till the body has been gradually brought into a warm temperature.

When any one, in consequence of neglecting these precautions, falls into a swoon, he ought immediately to be removed to a cooler apartment, to have ligatures applied above his knees and elbows, and to have his hands and face sprinkled with vinegar or cold water. He should likewise be made to smell to vinegar, and should have a spoonful or two of water, if he can swallow, with about a third part of vinegar mixed with it, poured into his mouth. If these should not remove the complaint, it may be necessary to bleed the patient, and afterwards to give him a clyster.

As air that is breathed frequently loses its elasticity or spring, it is no wonder if persons who respire in it often fall into a swoon or fainting-fit. They are in this case deprived of the very principle of life. Hence it is that fainting fits are so frequent in all crowded assemblies, especially in hot seasons. Such fits, however, must be considered as a kind of temporary death; and, to the weak and delicate, they sometimes prove fatal. They ought therefore with the utmost care to be guarded against. The method of doing this is obvious. Let assembly-rooms, and all other places of public resort, be large and well ventilated; and let the weak and delicate avoid such places, particularly in warm seasons.

A person who faints in such a situation ought immediately to be carried into the open air; his temples should be rubbed with strong vinegar or brandy, and volatile spirits or salts held to his nose. He should be laid upon his back with his head low, and have a little wine, or some other cordial, as soon as he is able to swallow it, poured into his mouth. If the person has been subject to hysteric fits, castor or asafœtida should be applied to the nose, or burnt feathers, horn, or leather, &c.

When fainting-fits proceed from mere weakness or exhaustion, which is often the case after great fatigue, long fasting, loss of blood, or the like, the patient must be supported with generous cordials, as jellies, wine, spirituous liquors, and such like. These, however, must be given at first in very small quantities, and increased gradually as the patient is able to bear them. He ought to be allowed to lie quite still and easy upon his back, with his head low, and should have fresh air admitted into his chamber. His food should consist of nourishing broths, sago-gruel with wine, new milk, and other things of a light and cordial nature. These things are to be given out of the fit. All that can be done in the fit is, to let him smell to a bottle of Hungary-water, *eau-de-luce*, or spirits of hartshorn, and to rub his temples with warm brandy, or to lay a compress dipped in it to the pit of the stomach.

In fainting-fits that proceed from fear, grief, or other violent passions or affections of the mind, the patient must be very cautiously managed. He should be suffered to remain at rest, and only made to smell to some vinegar. After he is come to himself,

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of water.* In gouty cases, he observes that æther, a glass of French brandy, or of the aromatic water, or ginger, either taken in substance or infused in boiling water, are among the best medicines for expelling wind.

When the case of flatulent patients is such as makes it improper to give them warm medicines inwardly, the Doctor recommends external applications, which are sometimes of advantage. Equal parts of the anti-hysteric and stomach-plaster may be spread upon a piece of soft leather, of such size as to cover the greater part of the belly. This should be kept on for a considerable time, provided the patient be able to bear it; if it should give great uneasiness, it may be taken off, and the following liniment used in its stead:—

Take of Bate's anodyne balsam an ounce; of the expressed oil of mace half an ounce; oil of mint two drachms. Let these ingredients be mixed together, and about a table-spoonful well rubbed on the parts at bed-time.

For strengthening the stomach and bowels, and consequently for lessening the production of flatulence, the Doctor recommends the Peruvian bark, bitters, chalybeates, and exercise. In flatulent cases, he thinks some nutmeg or ginger should be added to the tincture of the bark and bitters, and that the aromatic powder should be joined with the filings of iron.

When windy complaints are attended with costiveness, which is often the case, few things will be found to answer better than four or five of the following pills taken every night at bedtime:—

Take of asafœtida two drachms; succotrine aloes, salt of iron, and powdered ginger, of each one drachm; and as much of the *elixir proprietatis* as will be sufficient to form them into pills.

On the other hand, when the body is too open, twelve or fifteen grains of rhubarb, with half a drachm, or two scruples of the Japonic confection, given every other evening, will have very good effect.

In those flatulent complaints which come on about the time the *menses* cease, repeated small bleedings often give more relief than any other remedy.

With regard to diet, the Doctor observes, that tea, and likewise all flatulent aliments, are to be avoided; and that for drink, water with a little brandy or rum is not only preferable to malt liquor, but in most cases also to wine.

As Dr. Whyte has paid great attention to this subject, and as his sentiments upon it in a great measure agree with mine, I have taken the liberty to adopt them; and shall only add to his observations, that exercise is in my opinion superior to all medicines, both for preventing the production, and likewise for expelling of flatulencies. These effects, however, are not to be expected from sauntering about, or lolling in a carriage; but from labour, or such active amusements as give exercise to every part of the body.

Low Spirits. *(Hypochondriasis.)*

This disease, known also by the name of the vapours, is a cer-

* Though the patient may begin with this quantity, it will be necessary to increase the dose gradually as the stomach can bear it. Æther is now given in considerably greater doses than it was in Dr. Whyte's time.

tain state of the mind accompanied with dyspepsy, in which the greatest evils are apprehended upon the slightest grounds, and the worst consequences imagined from any unusual feeling even of a trifling kind; and as regards these apprehensions and feelings, there is always the most obstinate belief and persuasion.

All who have weak nerves are subject to low spirits in a greater or less degree. Generous diet, the cold bath, exercise, and amusements, are the most likely means to remove this complaint. It is greatly increased by solitude and indulging gloomy ideas, but may often be relieved by cheerful company and sprightly amusements.

When low spirits are owing to a weak relaxed state of the stomach and bowels, an infusion of the Peruvian bark with cinnamon or nutmeg will be proper. Steel joined with aromatics may likewise in this case be used with advantage; but riding, and a proper diet, are most to be depended on.—When they arise from a foulness of the stomach and intestines, or obstructions in the hypochondriac viscera, aloetic purges will be proper. I have sometimes known the Harrowgate or Tunbridge water of service in these cases.—When the disease proceeds from a suppression of the menstrual or of the hæmorrhoidal flux, these evacuations may either be restored, or some other substituted in their place, as issues, setons, or the like. Dr. Whyte observes, that nothing has such sudden good effects in this case as bleeding.—When it has been brought on by long-continued grief, anxiety, or other distress of mind, agreeable company, variety of amusements, and change of place, especially travelling into foreign countries, will afford the most certain relief.

Persons afflicted with low spirits should avoid all kinds of excess, especially of venery and strong liquors. The moderate use of wine and other strong liquors is by no means hurtful; but when taken to excess, they weaken the stomach, vitiate the humours, and depress the spirits. This caution is the more necessary, as the unfortunate and melancholy often fly to strong liquors for relief, by which means they never fail to precipitate their own destruction.

Besides the usual symptoms attendant on this disease, hypochondriacs are apt to be troubled with pain in the head and stomach; to relieve which it may be proper to give such medicines as æther, musk,* and opium, either separately or conjointly.

Hysteric Affections.

These likewise belong to the numerous tribe of nervous diseases, which may justly be reckoned the reproach of medicine. Women of a delicate habit, whose stomach and intestines are relaxed, and whose nervous system is extremely sensible, are most subject to hysteric complaints. In such persons an hysteric fit, as it is call-

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* Take Musk mixture, 1½ ounce.
Spirit of Sulphuric Ether, 30 drps.
Make a draught to be taken three times a-day.

or

Take Spirit of Caraway, ½ ounce.
Camphor Mixture, 5 ounces.
Spirit of Sulphuric Ether, 1 drachm.
Tincture of Opium,
——— of Lavender,
of each, 30 drops.
Make a mixture; two table-spoonsful three or four times a-day.

ed, may be brought on by an irritation of the nerves of the stomach or intestines, by wind, acrid humour, or the like. A sudden suppression of the *menses* often gives rise to hysteric fits. They may likewise be excited by violent passions or affections of the mind, as fear, grief, anger, or great disappointments.—It appears under such various shapes, imitates so many other diseases, and is attended with such a variety of symptoms, that it is difficult to give a just character or definition of it; and it is only by taking the aggregate of its appearances that a proper idea can be conveyed of it to others.

Sometimes the hysteric fit resembles a swoon or fainting fit, during which the patient lies as in a sleep, only the breathing is so low as scarcely to be perceived. At other times the patient is affected with catchings and strong convulsions. The symptoms which precede hysteric fits are likewise various in different persons. Sometimes the fits come on with coldness of the extremities, yawning and stretching, lowness of spirits, oppression and anxiety. At other times the approach of the fit is foretold by a feeling, as if there were a ball at the lower part of the belly, which gradually rises towards the stomach, where it occasions inflation, sickness, and sometimes vomiting; afterwards it rises into the throat, and occasions a degree of suffocation, to which quick breathing, palpitation of the heart, giddiness of the head, dimness of the sight, loss of hearing, with convulsive motions of the extremities and other parts of the body, succeed. The hysteric paroxysm is often introduced by an immoderate fit of laughter, and sometimes it goes off by crying. Indeed there is not much difference between the laughing and crying of an hysteric lady.

Our aim in the treatment of this disease must be to shorten the fit or paroxysm when present, and to prevent its return. The longer fits continue, and the more frequently they return, the disease becomes the more obstinate. Their strength is increased by habit, and they induce so great a relaxation of the system, that it is with difficulty removed.

It is customary, during the hysteric fit or paroxysm, to bleed the patient. In strong persons of a plethoric habit, and where the pulse is full, this may be proper; but in weak and delicate constitutions, or where the disease has been of long standing, or arises from inanition, it is not safe. The best course in such cases is to rouse the patient by strong smells, as burnt feathers, asafœtida, or spirits of hartshorn, held to the nose. Hot bricks may also be applied to the soles of the feet, and the legs, arms, and belly, may be strongly rubbed with a warm cloth. But the best application is to put the feet and legs into warm water. This is peculiarly proper when the fits precede the flow of the *menses*. In case of costiveness, a laxative clyster with asafœtida will be proper: and as soon as the patient can swallow, two table-spoonsful of a solution of asafœtida, or of some cordial julep, may be given frequently.*

* When hysteric fits are occasioned by sympathy, they may be cured by exciting an opposite passion. This is said to have been the case of a whole school of young ladies in Holland, who were all cured by being told, that the first who was seized should be burned to death. But this method of cure, to my knowledge, will not always succeed

The radical cure of this disorder will be best attempted at a time when the patient is most free from the fits. It will be greatly promoted by a proper attention to diet. A milk and vegetable diet, when duly persisted in, will often perform a cure. If, however, the patient has been accustomed to a more generous diet, it will not be safe to leave it off all at once, but by degrees. The most proper drink is water with a small quantity of spirits. A cool dry air is the best. Cold bathing, and every thing that braces the nerves, and invigorates the system, is beneficial; but lying too long in bed, or whatever relaxes the body, is hurtful. It is of the greatest importance to have the mind kept constantly easy and cheerful, and, if possible, to have it always engaged in some agreeable and interesting pursuit.

The proper medicines are those which strengthen the alimentary canal and the whole nervous system, as the preparations of iron, the Peruvian bark and other bitters. Twenty drops of the elixir of vitriol, in a cup of the infusion of the bark, may be taken twice or thrice a-day. The bark and iron may likewise be taken in substance, provided the stomach can bear them; but they are generally given in too small doses to have any effect. The chalybeate waters generally prove beneficial in this disorder.

If the stomach is loaded with phlegm, vomits will be of use; but they should not be too strong, nor frequently repeated, as they tend to relax and weaken the stomach. If there is a tendency to costiveness, it must be removed either by diet, or by taking an opening pill as often as it shall be found necessary.

To lessen the irritability of the system, antispasmodic medicines will be of use. The best antispasmodic medicines are musk, opium, and castor. When opium disagrees with the stomach, it may either be applied externally, or given in clysters. It is often successful in removing those periodical head-achs to which hysteric and hypochondriac patients are subject. Castor has in some cases been found to procure sleep where opium failed; for which reason Dr. Whyte advises, that they should be joined together. He likewise recommends the anti-hysteric plaster to be applied to the *abdomen*.*

Hysteric women are often afflicted with cramps in various parts of the body, which are most apt to seize them in bed, or when asleep. The most efficacious medicines in this case are opium, blistering-plasters, and warm bathing or fomentations. When the cramp or spasm is very violent, opium is the remedy most to be depended on. In milder cases, immersing the feet and legs in warm water, or applying a blistering-plaster to the part affected, will often be sufficient to remove the complaint. In patients whose nerves are uncommonly delicate and sensible, it will be better to omit the blistering-plaster, and to attempt the cure by opiates, musk, camphor, and the warm bath.

Cramps are often prevented or cured by compression. Thus

I would therefore advise, that young ladies who are subject to hysteric fits, should not be sent to boarding-schools, as the disease may be caught by imitation. I have known madness itself brought on by sympathy.

* Though antispasmodics and anodynes are universally recommended in this disease, yet all the extraordinary cures that I ever knew in hysteric cases, were performed by means of tonic and corroborating medicines.

cramps in the legs are prevented, and sometimes removed, by tight bandages; and when convulsions arise from a flatulent distention of the intestines, or from spasms beginning in them, they may be often lessened or cured by making a pretty strong compression upon the *abdomen* by means of a broad belt. A roll of brimstone held in the hand is frequently used as a remedy for cramps. Though this seems to owe its effect chiefly to imagination, yet, as it sometimes succeeds, it merits a trial.* When spasms or convulsive motions arise from sharp humours in the stomach or intestines, no lasting relief can be procured till these are either corrected or expelled. The Peruvian bark has sometimes cured periodic convulsions after other medicines had failed.

Hypochondriac Affections. (*Hypochondriasis.*)

This disease generally attacks the indolent, the luxurious, the unfortunate, and the studious. It becomes daily more common in this country, owing, no doubt, to the increase of luxury and sedentary employments. It has so near a resemblance to the immediately preceding, that many authors consider them as the same disease, and treat them accordingly. They require, however, a very different regimen; and the symptoms of the latter, though less violent, are more permanent than those of the former.

Men of melancholy temperament, whose minds are capable of great attention, and whose passions are not easily moved, are, in the advanced periods of life, most liable to this disease. It is usually brought on by long and serious attention to abstruse subjects, grief, the suppression of customary evacuations, excess of venery, the repulsion of cutaneous eruptions, long continued evacuations, obstructions in some of the viscera, as the liver, spleen, &c.

Hypochondriac persons ought never to fast long, and their food should be solid and nourishing. All acescent and windy vegetables are to be avoided. Flesh-meats agree best with them, and their drink should be old claret or good madeira. Should these disagree with the stomach, water with a little brandy or rum in it may be drank.

Cheerfulness and serenity of mind are by all means to be cultivated. Exercise of every kind is useful. The cold bath is likewise beneficial; and, where it does not agree with the patient, frictions with the flesh-brush or a coarse cloth may be tried. If the patient has it in his power, he ought to travel either by sea or land. A voyage or a long journey, especially towards a warmer climate, will be of more service than any medicine.

The general intentions of cure in this disease, are to strengthen the alimentary canal, and to promote the secretions. These intentions will be best answered by the different preparations of iron and the Peruvian bark, which, after proper evacuations, may be taken in the same manner as directed in the preceding disease.

If the patient be costive, it will be necessary to make use of some gentle opening medicine, as pills composed of equal parts of aloes, rhubarb, and asafœtida, with as much of the *elixir propri-*

* Some persons afflicted with cramps pretend to reap great benefit from small bundles of rosemary tied all night about their feet, ancles, and knees.

etatis as is necessary to form the ingredients into pills. Two, three, or four of these may be taken as often as it shall be found needful to keep the body gently open. Such as cannot bear the asafœtida may substitute Spanish soap in its place.

Though a cheerful glass may have good effects in this disease, yet all manner of excess is hurtful. Intense study and every thing that depresses the spirits, are likewise pernicious.

Though the general symptoms and treatment of nervous disorders were pointed out in the beginning of this chapter, yet, for the benefit of the unhappy persons afflicted with those obstinate and complicated maladies, I have treated several of their capital symptoms under distinct or separate heads. These, however, are not to be considered as different diseases, but as various modifications of the same disease. They all arise from the same general causes, and require nearly the same method of treatment. There are many other symptoms that merit particular attention, which the nature of my plan will not permit me to treat of at full length. I shall therefore omit them altogether, and conclude this chapter with a few general remarks on the most obvious means of preventing or avoiding nervous disorders.

In all persons afflicted with nervous disorders, there is a great delicacy and sensibility of the whole system, and an uncommon degree of weakness of the organs of digestion. These may be either natural or acquired. When owing to a defect in the constitution, they are hardly to be removed; but may be mitigated by proper care. When induced by diseases, as long or repeated fevers, profuse hæmorrhages, or the like, they prove also very obstinate, and will yield only to a course of regimen calculated to restore and invigorate the habit.

But nervous affections arise more frequently from causes, which it is in a great measure in our own power to avoid, than from diseases, or an original fault in the constitution, &c. Excessive grief, intense study, improper diet, and neglect of exercise, are the great sources of this extensive class of diseases.

It has been already observed, that grief indulged destroys the appetite and digestion, depresses the spirits, and induces an universal relaxation and debility of the whole system. Instances of this are daily to be seen. The loss of a near relation, or any other misfortune in life, is often sufficient to occasion the most complicated series of nervous symptoms. Such misfortunes indeed are not to be avoided, but surely their effects, by a vigorous and proper exertion of the mind, might be rendered less hurtful. For directions in this matter we must refer the reader to the article GRIEF, in the chapter on the Passions.

The effects of intense study are pretty similar to those occasioned by grief. It preys upon the animal spirits, and destroys the appetite and digestion. To prevent these effects, studious persons ought, according to the Poet, *to toy with their books.** They should never study too long at a time; nor attend long to one particular subject, especially if it be of a serious nature. They ought likewise to be attentive to their posture, and should take care fre-

* Armstrong on Health.

quently to unbend their minds by music, diversions, or going into agreeable company.

With regard to diet, I shall only observe, that nervous diseases may be induced either by excess or inanition. Both of these extremes hurt the digestion, and vitiate the humours. When nature is oppressed with fresh loads of food, before she has had time to digest and assimilate the former meal, her powers are weakened, and the vessels are filled with crude humours. On the other hand, when the food is not sufficiently nourishing, or is taken too seldom, the bowels are inflated with wind, and the humours, for want of regular fresh supplies of wholesome chyle, are vitiated. These extremes are, therefore, with equal care to be avoided. They both tend to induce a relaxation and debility of the nervous system, with all its dreadful train of consequences.

But the most general cause of nervous disorders is *indolence*. The active and laborious are seldom troubled with them. They are reserved for the children of ease and affluence, who generally feel their keenest force. All we shall say to such persons is, that the means of prevention and cure are both in their own power. If the constitution of human nature be such, that man must either labour or suffer diseases, surely no individual has any right to expect an exemption from the general rule.

Those, however, who are willing to take exercise, but whose occupations confine them to the house, and perhaps to an unfavourable posture, really deserve our pity. We have in a former part of the book endeavoured to lay down rules for their conduct; and shall only add, that where these cannot be complied with, their place may, in some measure, be supplied by the use of bracing and strengthening medicines, as the Peruvian bark, with other bitters; the preparation of steel; the elixir of vitriol, and such like.

Among many remarkable cases of the nervous kind, which I have often met with, one very lately attracted my notice in a peculiar manner. It was written by the patient himself, a gentleman of fortune and of liberal education; and it might be justly called a picture from nature, drawn with uncommon sensibility and force. The whole account being too long for insertion, the following extract may serve as a specimen of the writer's sufferings and descriptive talents:—"It is in vain," he says, "that I attempt to impress the Faculty with the real state of my sufferings. The symptoms of the disorders are not to be described, from their unusual pressure upon the mind; nor can they be conceived, I believe, by any but those who have suffered under them. They may be said to constitute a phenomenon in the science of diseases. Since I know of no terms to express them in, or language to describe them by, I am obliged to content myself with denominating the disorder and its effects together a *mental agony*, whose influence creates a real *tedium vitæ*. It attacks me sometimes when sitting, sometimes when walking; and if I were not to throw myself on a bed during the violence of the paroxysm, I should certainly dash myself to pieces. This is accompanied with a lassitude, restlessness, and total incapacity of attending to any concerns in life."

The same spirit animated every part of the affecting description; and the case was accompanied with a list of eleven eminent

physicians, whom the patient had consulted at different times, but whose names I suppress, as their prescriptions did him no good, and did them no honour. When the primary seat of the disease is in the mind, it is stooping to the low tricks of quackery to amuse a patient with false hopes of the efficacy of any medicine. The disappointment that follows aggravates every painful symptom, and makes the unhappy sufferer look forward to death as the only resource. All I prescribe for him is travelling.

I should also have willingly inserted here an account of some other nervous affections of an extraordinary nature, had not their length exceeded the limits I prescribed to myself in these supplementary observations.

'For this very prevalent and distressing class of complaints, there is not any remedy so much to be relied on as the habit of early rising, which necessarily implies that of retiring also at an early hour to rest. The energies of the nervous system become exhausted and worn out, by the impressions of external objects on the senses, as well as by the mental exertions which are perpetually going on while we are awake. Sleep is the means appointed by Nature for the renovation of these wasted energies. On waking from a state of sound sleep, we find ourselves, in the proper sense of the word, refreshed. Such refreshment, however, is chiefly to be expected from that sleep which takes place before midnight. After a certain hour of the evening, even the most healthy persons experience an increased quickness of the pulse. In feeble constitutions this nocturnal access of fever is still more strongly marked; and the repetition of it is the true cause of that worn, hagged appearance, by which the votaries, or rather the victims, of fashion may, in general, be distinguished. It is by no means advisable to curtail the natural time of sleep. The great Lord Mansfield, himself an early riser, and whose long-protracted life gives importance to his opinion on any subject connected with the preservation of health, used to counsel his friends, as one of the best means of obtaining that blessing, "TO CULTIVATE SLEEP." But it must be the sound repose of temperance, which can only be found during the early hours of night, not the perturbed slumbers of the noonday couch. Nothing, indeed, tends more to debilitate the constitution, and in an especial manner to aggravate every species of nervous complaint, than remaining in bed till a late hour of the morning.

Could "the still small voice of reason" expect to be heard in opposition to the imperious mandates of fashion, the present custom of taking the principal meal at so very late an hour of the day, might also be denounced as contributing not a little to produce diseases of the nerves. After the system has been exhausted by long fasting, the stomach is suddenly replenished with a quantity of rich food and stimulating liquors, which the empty vessels absorb with an eagerness far beyond their powers to assimilate. Of this, the immediate consequence is drowsiness, but if the flagging spirits be roused by the presence of company, or the free use of wine, the circulation is hurried; the countenance becomes flushed, and a temporary exhilaration takes place, which must inevitably

be compensated by an equivalent depression during some other period of the natural day. Sleep is disturbed and interrupted, in consequence of the blood-vessels of the brain being irritated by the sudden influx of fresh chyle, by which they are distended; and rendered, more particularly in the supine posture, liable to rupture. May we not venture, without being accused of entering too far into theoretical speculations, to attribute, in part at least, to these causes, the augmented frequency of apoplexy, and its melancholy sequel, palsy? The palpable increase of which complaints in this country of late years is a subject of serious alarm.' A. P. B.

CHAP. XXXII.

DISORDER OF THE SENSES.

We do not mean to treat of the nature of our sensations, or to give a minute description of the various organs by which they are performed; but to point out some of the diseases to which these organs are more liable, and to show how they may be prevented or remedied.

Of the Eye.

No organ of the body is subject to more diseases than the eye; nor is there any one of which the diseases are more difficult to cure. Though more ignorant persons pretend to cure these than any other class of diseases, yet a very superficial acquaintance with the structure of the eye, and the nature of vision, will be sufficient to convince any one of the danger of trusting to them. These diseases often exceed the skill of the most learned physician; hence we may easily infer the danger of trusting them to ignorant quacks, who, without all peradventure, put out more eyes than they cure. But, though the diseases of the eye can seldom be cured, they might often, by due care, be prevented; and, even where the sight is totally lost, many things might be done, which are generally neglected, to render the unhappy person both more useful to himself and to society.*

The eyes are hurt by viewing bright or luminous objects; keeping the head too long in a hanging posture; violent head-achs; excessive venery; the long use of bitters; the effluvia from acrid or volatile substances; various diseases, as the smallpox, measles, &c.; but, above all, from night-watching, and candlelight-studies. Long fasting is likewise hurtful to the eyes, and frequent heats and colds are no less pernicious. The eyes are often hurt by the stoppage of customary evacuations; as morning sweats; sweating of the feet; the *menses* in women; and the bleeding piles in men.

*There are many employments of which blind persons are very capable, as knitting, carding, turning a wheel, teaching languages, &c. Nor are instances wanting of persons who have arrived at the highest pitch of learning, without having the least idea of sight. Witness the late famous Nicholas Sanderson of Cambridge, and my worthy friend, Dr. Thomas Blacklock of Edinburgh. The former was one of the first mathematicians of his age, and the latter, besides being a good poet and philosopher, was master of all the learned languages, and a very considerable adept in the liberal arts.

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structure or figure of the eye, therefore admit of no cure. The inconveniences arising from them may however be in some measure remedied by the help of proper glasses. The former requires the aid of a concave, and the latter of a convex glass.

Strabismus, or *squinting*, depends upon an irregular contraction of the muscles of the eye from a spasm, palsy, epilepsy, or an ill habit. Children often contract this disorder by having their eyes unequally exposed to the light. They may likewise acquire it by imitation from a squinting nurse, or playfellow, &c. As this disorder can hardly be cured, parents ought to be careful to prevent it. Almost the only thing which can be done for it is to contrive a mask for the child to wear, which will only permit him to see in a straight direction.

In most cases of squinting we shall be enabled to afford essential relief, by the simple process of binding up the sound eye every day, for two or three hours, so as to oblige the patient to make use of the debilitated organ, and according as it is more or less indisposed, to keep the other more or less veiled, and continuing these means until the diseased eye is enabled fully and properly to perform its functions.

Spots or Specks on the eyes are generally the effect of inflammation, and often appear after the small-pox, the measles, or violent ophthalmias. They are very difficult to cure, and often occasion total blindness. If the specks are soft and thin, they may sometimes be taken off by gentle caustics and discutients; as vitriol, the juice of celandine, &c. When these do not succeed, a surgical operation may be tried: the success of this, however, is always very doubtful.

The Blood-shot Eye may be occasioned by a stroke, a fall, retching, vomiting, violent coughing, &c. I have frequently known it happen to children in the hooping-cough. It appears at first like a bit of scarlet, and is afterwards of a livid or blackish colour. This disorder generally goes off without medicine. Should it prove obstinate, the patient may be bled, and have his eyes fomented with a decoction of comphry roots and elder flowers. A soft poultice may be applied to the eyes; and the body should be kept open by gentle purgatives.

The Watery or Weeping Eye is generally occasioned by a relaxation or weakness of the glandular parts of that organ. These may be braced and strengthened by bathing the eye with brandy and water, Hungary water, rose water, with white vitriol dissolved in it, &c. Medicines which make a revulsion are likewise proper; as mild purgatives, perpetual blisters on the neck, bathing the feet frequently in lukewarm water, &c.

When this disease proceeds from an obstruction of the lachrymal duct, or natural passage of the tears, it is called a *fistula lachrymalis*, and can only be cured by a surgical operation.*

* A weeping or watery eye is often the mark of a scrofulous habit.

There are many diseases to which the eye is liable, requiring the best surgical treatment, which it would serve to little purpose to introduce into a work of family medicine, several of them demanding different means of treatment, as the affection may be in the acute or chronic stage. See *Inflammation of the eyes.*

The Ear.

The functions of the ear may be injured by wounds, ulcers, or any thing that hurts its fabric. The hearing may likewise be hurt by excessive noise; violent colds in the head; fevers; hard wax, or other substances sticking in the cavity of the ear; too great a degree of moisture or dryness in the ear. Deafness is very often the effect of old age, and is incident to most people in the decline of life. Sometimes it is owing to an original fault in the structure or formation of the ear itself. When this is the case, it admits of no cure; and the unhappy person not only continues deaf, but generally likewise dumb for life.*

When deafness is the effect of wounds or ulcers of the ear, or of old age, it is not easily removed. When it proceeds from cold of the head, the patient must be careful to keep his head warm, especially in the night; he should likewise take some gentle purges, and keep his feet warm, and bathe them frequently in lukewarm water at bed-time. When deafness is the effect of a fever, it generally goes off after the patient recovers. If it proceeds from dry wax sticking in the ears, it may be softened by dropping oil into them; afterwards they must be syringed with warm milk and water.

If deafness proceed from dryness of the ears, which may be known by looking into them, half an ounce of the oil of sweet almonds, and the same quantity of opodeldoc, or tincture of asafœtida, may be mixed together, and a few drops of it put into the ear every night at bed-time, stopping them afterwards with a little wool or cotton. Some, instead of oil, put a small slice of the fat of bacon into each ear, which is said to answer the purpose very well. When the ears abound with moisture, it may be drained off by an issue or seton, which should be made as near the affected parts as possible.

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* Though those who have the misfortune to be born deaf are generally suffered to continue dumb, and consequently are in a great measure lost to society, yet nothing is more certain than that such persons may be taught not only to read and write, but also to speak, and to understand what others say to them. Teaching the dumb to speak, will appear paradoxical to those who do not consider that the formation of sounds is merely mechanical, and may be taught without the assistance of the ear. This is not only capable of demonstration, but is actually reduced to practice by the ingenious Mr. Thomas Braidwood of Edinburgh. This gentleman has, by the mere force of genius and application, brought the teaching of dumb persons to such a degree of perfection, that his scholars are generally more forward in their education, than those of the same age who enjoy all their faculties. They not only read and write with the utmost readiness, but likewise *speak*, and are capable of holding conversation with any person in the light. What a pity any of the human species should remain in a state of idiotism, who are capable of being rendered as useful and intelligent as others! We mention this not only from humanity to those who have the misfortune to be born deaf, but also in justice to Mr. Braidwood, whose success has far exceeded all former attempts this way; and indeed it exceeds imagination itself so far, that no person who has not seen and examined his pupils, can believe what they are capable of. As this gentleman, however willing, is only able to teach a few, and as the far greater part of those who are born deaf cannot afford to attend him, it would be an act of great humanity, as well as public utility, to erect an academy for their benefit.

Some, for the cure of deafness, recommend the gall of an eel mixed with spirit of wine to be dropped into the ear; others, equal parts of Hungary water and spirit of lavender. Ox-gall and balsam of tolu, equal parts, is a good application to be dropped in the ear in cases where the disease depends upon an ulcer. If from an abscess, suppuration must be promoted by means of emollient poultices, steam, &c. Etmuller extols amber and musk; and Brookes says, he has often known hardness of hearing cured by putting a grain or two of musk into the ear with cotton-wool. But these and other applications must be varied according to the cause of the disorder.*

Though such applications may sometimes be of service, yet they much oftener fail, and frequently they do hurt. Neither the eyes nor ears ought to be tampered with; they are tender organs, and require a very delicate touch. For this reason, what we would chiefly recommend in deafness, is, to keep the head warm. From whatever cause the disorder proceeds, this is always proper; and I have known more benefit from it alone, in the most obstinate cases of deafness, than from all the medicines I ever used.

Ear-ache sometimes continues for many days without any apparent inflammation, and is then frequently removed by filling the ear with cotton or wool, wetted with tincture of opium or ether, or even with warm oil, or warm water. Sometimes a pain in the ear is a consequence of the association with a diseased tooth, in which case the ether should be applied to the cheek over the suspected tooth, or a grain of opium, with a little camphor, may be applied to the tooth itself.

Taste and Smell.

Though these senses are not of so great importance to man in a state of society, as the sight and hearing, yet as the loss of them is attended with some inconveniency, they deserve our notice. They are seldom to be restored when lost; which ought to make us very attentive to their preservation, by carefully avoiding whatever may in the least prove injurious to them. As there is a very great affinity between the organs of tasting and smelling, whatever hurts the one gradually affects the other.

Luxury is highly injurious to these organs. When the nose and palate are frequently stimulated by fragrant and poignant dishes, they soon lose the power of distinguishing taste and odours with any degree of nicety. Man, in a state of nature, may perhaps have these faculties as acute as any other animal.

The sense of smelling may be diminished or destroyed by diseases; as the moisture, dryness, inflammation, or suppuration of that membrane, which lines the inside of the nose, commonly called the olfactory membrane; the compression of the nerves which supply this membrane, or some fault in the brain itself at their or-

* A gentleman, on whose veracity I can depend, told me, that after using many things to no purpose for an obstinate deafness, he was at last advised to put a few drops of his own urine warm into his ears every night and morning, from which he received great benefit. It is probable that a solution of *muriate of ammonia*, in water, would produce the same effect. A solution of common salt will answer the same purpose, as in this case, where the deafness proceeds from an accumulation of hardened wax.

igin. A defect, or too great a degree of solidity, of the small spungy bones of the upper jaw, the caverns of the forehead, &c. may likewise impair the sense of smelling. It may also be injured by a collection of fœtid matter in those caverns, which keeps constantly exhaling from them. Few things are more hurtful to the sense of smelling than taking great quantities of snuff.

When the nose abounds with moisture, after gentle evacuations, such things as tend to take off irritation, and coagulate the thin sharp serum, may be applied; as the oil of aniseed mixed with fine flour; camphor dissolved in oil of almonds, &c. The vapours of amber, frankincense, gum-mastic, and benjamin, may likewise be received into the nose and mouth.

For moistening the mucus, when it is too dry, some recommend snuff made of the leaves of marjoram, mixed with the oil of amber, marjoram, and aniseed; or a sternutatory of calcined white vitriol; twelve grains of which may be mixed with two ounces of marjoram-water, and filtrated. The steam or vapour of vinegar upon hot iron received up the nostrils, is likewise of use for softening the mucus, opening obstructions, &c.*

If there is an ulcer in the nose, it ought to be dressed with some emollient ointment, to which, if the pain be very great, a little laudanum may be added. If it be a venereal ulcer, it is not to be cured without mercury. In that case, the solution of the corrosive sublimate in brandy may be taken, as directed in the gutta serena. The ulcer ought likewise to be washed with it; and the fumes of cinnabar may be received up the nostrils.

If there be reason to suspect that the nerves, which supply the organs of smelling are inert, or want stimulating, volatile salts, strong snuffs, and other things which occasion sneezing, may be applied to the nose. The forehead may likewise be anointed with balsam of Peru, to which may be added a little of the oil of amber.

The *taste* may be diminished by crusts, filth, mucus, apthæ, pellicles, warts, &c. covering the tongue. It may be depraved by a fault of the saliva, which, being discharged into the mouth, gives the same sensations as if the food which the person takes had really a bad taste; or it may be entirely destroyed by injuries done to the nerves of the tongue and palate. Few things prove more hurtful either to the sense of tasting or smelling, than obstinate colds, especially those which affect the head.

When the taste is diminished by filth, mucus, &c. the tongue ought to be scraped, and frequently washed with a mixture of water, vinegar, and honey, or some other detergent. When the saliva is vitiated, which seldom happens, unless in fevers or other diseases, the curing of the disorder is the cure of this symptom. To relieve it, however, in the mean time, the following things may be of use: If there be a bitter taste, it may be taken away by vomits,

*The most efficacious sternutatory, and which will frequently be found useful in obstinate head-achs and in complaints of the eyes, as well as in dryness of the nose, and deficiency of smell, is composed of equal parts of the vitriolated mercury, fine sugar, and powder of liquorice root. These are to be well mixed together. A pinch of this composition drawn forcibly up the affected nostril a short time previous to going to bed, generally produces a copious discharge of watery mucus during the night, without sneezing. Ed.

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Uncleanliness is also highly injurious to the organs of sensation. Perhaps the benignity of Nature is not displayed in any thing more strongly than in the warnings she gives of this evil, and in her own endeavours to avert it. She has left us so little to do, that we deserve no pity for the severest punishment of our neglect. See how kindly she has guarded the extremities of the nerves all over the body, the interior parts of the nose, the mouth, the ear, the eye, against external annoyance! Observe with what efforts, entirely independent of our will, she strives to relieve those delicate organs from all impurities! The uneasiness we feel upon such occasions ought to rouse our immediate attention. Shall we suffer dirt to gather upon the skin, to dull the sense of feeling, to obstruct the pores, and to drive back into the system the noxious particles which Nature endeavours to throw off, when the use of a little soap and water would prevent every inconvenience? Is it too much trouble to wash the ears; to dip the face with the eyes open in a bason of clean water four or five times every morning, to rinse the nose and mouth; and to keep the tongue clean, not by scraping it, but by attending to the state of the stomach, of which the tongue is an index? Some people seem to be as much afraid of water as if they had been bitten by a mad dog; and if they remain obstinate in that antipathy, I can only say, they deserve a far worse end than that of such unfortunate incurables, to be suffocated in their own filth.

CHAP. XXXIII.

OF A SCIRRHUS AND CANCER.

A Scirrhus is a hard indolent tumour, usually seated in some of the glands; as the breast, the arm-pits, &c. If the tumour becomes large, unequal, of a livid, blackish, or leaden colour, and is attended with violent pain, it gets the name of an *occult cancer*. When the skin is broken, and a *sanies* or ichorous matter, of an abominably fœtid smell, is discharged from the sore, it is called an open or ulcerated cancer. Persons after the age of forty-five, particularly women, and those who lead an indolent sedentary life, are most subject to this disease. It is most commonly confined to glands, and particularly the testes and mammæ, but is now and then, nevertheless, to be met with in the uterus, as likewise in the face and other parts that are thinly covered with flesh, and which at the same time are a good deal exposed to external irritation, such as the lower lip, the angles of the eyes, the organs of vision, the wings of the nose, tongue, and penis. A cancer is an ulcer of the very worst kind, with an uneven surface, and ragged and painful edges, which spreads in a very rapid manner, discharges a thin acrimonious matter, that excoriates the neighbouring integuments, and has a very fœtid smell, and which is usually preceded by a hard or scirrhous swelling of the part, if glandular.

Causes.—This disease is often owing to suppressed evacuations; hence it proves so frequently fatal to women of a gross habit;

particularly old maids and widows, about the time when the menstrual flux ceases. It may likewise be occasioned by excessive fear, grief, anger, religious melancholy, or any of the depressing passions. Hence the unfortunate, the choleric, and those persons who devote themselves to a religious life in convents or monasteries, are often afflicted with it. It may also be occasioned by the long continued use of food that is too hard of digestion, or of an acrid nature; by barrenness, celibacy, indolence, cold, external injuries, friction, pressure, or the like. Women often suffer from the last of these by means of their stays, which squeeze and compress their breasts so as to occasion great mischief. Sometimes the disease is owing to an hereditary disposition.

Symptoms.—This disorder seems often very trifling at the beginning. A hard tumour, about the size of a hazle-nut, or perhaps smaller, is generally the first symptom. This will often continue for a long time without seeming to increase, or giving the patient great uneasiness; but if the constitution be hurt, or the tumour irritated by pressure or improper treatment of any kind, it begins to extend itself towards the neighbouring parts, by pushing out a kind of roots or limbs. It then gets the name of *cancer*, from a fancied resemblance between these limbs and the claws of a crab.

The colour of the skin begins to change, which is first red, afterwards purple, then bluish, livid, and at last black. The patient complains of heat, with a burning, gnawing, shooting pain. The tumour is very hard, rough, and unequal, with a protuberance, or rising, in the middle: its size increases daily, and the neighbouring veins become thick, knotty, and of a blackish colour.

The skin at length gives way, and a thin sharp ichor begins to flow, which corrodes the neighbouring parts till it forms a large unsightly ulcer. More occult cancers arise, and communicate with the neighbouring glands. The pain and stench become intolerable; the appetite fails; the strength is exhausted by a continual hectic fever; at last, a violent hæmorrhage, or discharge of blood, from some part of the body, with faintings or convulsion fits, generally put an end to the miserable patient's life.

Regimen.—The diet ought to be light, but nourishing. All strong liquors, and high-seasoned or salted provisions, are to be avoided. The patient may take as much exercise as he can easily bear; and should use every method to divert thought and amuse his fancy. All kinds of external injury are carefully to be guarded against, particularly of the affected part, which ought to be defended from all pressure, and even from the external air, by covering it with fur or soft flannel.

Medicine.—This is one of those diseases for which no certain remedy is yet known. Its progress, however, may sometimes be retarded, and some of its most disagreeable symptoms mitigated, by proper applications. One misfortune attending the disease is, that the unhappy patient often conceals it too long. Were proper means used in due time, a cancer might often be prevented; but after the disorder has arrived at a certain height, it generally sets all medicine at defiance.

When a scirrhous tumour is first discovered, the patient ought to observe a proper regimen, and to take twice or thrice a-week a dose of the common purging mercurial pill. Some blood may also be let, and the part affected may be gently rubbed twice a-day, with a little of the mercurial ointment, and kept warm with fur or flannel. The food must be light, and an English pint of the decoction of woods or sarsaparilla may be drank daily. I have sometimes discussed hard tumours, which had the appearance of beginning cancers, by a course of this kind.

To allay pain and irritation, and, probably, thereby retard the progress of the disease, opium may be given internally, and likewise applied externally, mixed with the different preparations of lead used as sedatives and discutients;* and much may be done in all incipient scirrhous tumours by repeatedly blistering the part, having first had recourse to the frequent applications of leeches, occasional purgatives, and a cooling diet.

Should the tumour, however, not yield to this treatment, but, on the contrary, become larger and harder, it will be proper to extirpate it either by the knife or caustic. Indeed, whenever this can be done with safety the sooner it is done the better. It can answer no purpose to extirpate a cancer after the constitution is ruined, or the whole mass of humours corrupted by it. This, however, is the common way, which makes the operation so seldom succeed. Scirrhous tumours are often removed with perfect safety, and thereby prevented from degenerating into true cancer, when extirpation is not delayed too long; but after a tumour of this description has ulcerated, thereby assuming the cancerous character, and has afforded an opportunity for an absorption of the matter into the system, there is every reason to suppose that a complete cure seldom, if ever, be effected. Few people will submit to the extirpation till death stares them in the face, whereas, if it were done early the patient's life would not be endangered by the operation, and it would generally prove a radical cure.

When the cancer is so situated that it cannot be cut off, or if the patient will not submit to the operation, such medicines as will mitigate or relieve the most urgent symptoms may be used. Dr. Home says, that half a grain of the corrosive sublimate of mercury, dissolved in a proper quantity of brandy, and taken night and morning, will often be of service in cancers of the face and nose. He likewise recommends an infusion of the *solanum*, or nightshade, in cancers of the breasts.

But the medicine most in repute at present for this disease is hemlock. Dr. Stork, physician at Vienna, has of late recommended the extract of this plant as very efficacious in cancers of every kind. The Doctor says, he has given some hundred weights of it without ever hurting any body, and often with manifest advantage.

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* Take Cerate of Superacetate of Lead, 1 ounce.
Opium, in Powder, ½ drachm.
Mix them for an ointment.

or

Take a Plaster of the Oxyd of Lead, and apply it to the tumour.

or

Take Solution of Acetate of Ammonia, 1 ounce.
Solution of Acetate of Lead, 30 drops.
Pure Water, 1 ounce.
Tincture of Opium, 1½ drachm
Make a lotion.

He advises the patient, however, to begin with very small doses, as two or three grains, and to increase the dose gradually till some good effect be perceived, and there to rest without further increase. From two or three grains at first, the Doctor says he has increased the dose to two, three, or four drachms a-day, and finds that such doses may be continued for several weeks without any bad consequences.

The regimen which the Doctor recommends during the use of the medicine, is to avoid farinaceous substances not fermented, and too acrid aromatics. He says good wine will not be hurtful to those who are accustomed to it, nor a moderate use of acids; and adds, that the patient should live in a pure free air, and keep his mind as quiet and cheerful as possible.

The Doctor does not pretend to fix the time in which a cancer may be resolved by the use of hemlock, but says he has given it for above two years in large doses without any apparent benefit; nevertheless the patient has been cured by persisting in the use of it for half a year longer. This is at least encouragement to give it a fair trial. Though we are far from thinking the hemlock merits those extravagant encomia which the Doctor has bestowed upon it, yet in a disease which has so long baffled the boasted powers of medicine, we think it ought always to be tried, at least, during the occult or scirrhous state. Deadly nightshade and henbane are medicines of the same class with hemlock, and the timely use of them has sometimes proved advantageous in glandular tumours and indurations that are likely to become cancerous. These have also been employed, with others of the narcotic class, in external applications, as well as the hemlock. When used in this way the leaves may be boiled in milk, so as to form a decoction sufficiently strong, with which the part is to be frequently fomented.

The powder of hemlock is by some preferred to the extract. They are both made of the fresh leaves, and may be used nearly in the same manner. Dr. Nicholson of Berwick says, he gradually increased the dose of the powder from a few grains to half a drachm, and gave near four drachms of it in a day with remarkably good effects. The hemlock may also be used externally either as a poultice or fomentation. The sore may likewise be kept clean by injecting daily a strong decoction of the tops of leaves into it.

Few things contribute more to the healing of foul sordid ulcers of any kind than keeping them thoroughly clean. This ought never to be neglected. The best application for this purpose seems to be the carrot poultice. The root of the common carrot may be grated, and moistened with as much water as will bring it to the consistence of a poultice or cataplasm. This must be applied to the sore, and renewed twice a-day. It generally clears the sore, eases the pain, and takes away the disagreeable smell, which are objects of no small importance in such a dreadful disorder.* In every species of open cancer, the air should be excluded as much as possible; a double covering of oil-silk may therefore be applied over the dressings.

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* London Medical Essays.

Wort, or an infusion of malt, has been recommended, not only as a proper drink, but as a powerful medicine in this disease. It must be frequently made fresh, and the patient may take it at pleasure. Two, three, or even four English pints of it may be drank every day for a considerable time. No benefit can be expected from any medicine in this disease, unless it be persisted in for a long time. It is of too obstinate a nature to be soon removed; and, when it admits of a cure at all, it must be brought about by inducing an almost total change of the habit, which must always be a work of time. Setons or issues in the neighbourhood of the cancer have sometimes good effects.* A cancerous ulcer of the tongue has been cured by nitric acid† and opium, which had resisted various remedies. An opiate was given at night; and the acid, to prevent it from corroding the teeth, was directed to be sucked through a tube. In fourteen days after the exhibition of this medicine, healthy granulations were seen to shoot out from the bottom of the ulcer, which gradually healed from this time; and in the course of three months, although half the tongue had been in a state of ulceration, was perfectly healed. Nothing was applied to the diseased part but a lotion composed of the extract of hemlock, rectified spirit and water, to which little or no efficacy was ascribed.

Applications of a caustic nature have been much used in the ulcerated stage of cancer, and they have been employed under a variety of forms; but their principal ingredients have been well known to be either arsenic or corrosive sublimate. The most noted are the Arundel powder, Guy's powder, and Plunket's powder: which last is a composition of crow's-foot, dog's-fennel, and arsenic. None of these have ever produced the smallest benefit; on the contrary, they all occasion infinitely more pain than the more certain method of cure, when taken in due time, by the operation of cutting out the cancerous core; but, unfortunately, by such empirical, mercenary, and fallacious means as the above, the unhappy patient has been but too frequently beguiled beyond the period when the operation might have been attended with success.

As a topical application in external cancer, such as of the lip, breast, &c., lint dipped in a solution of the subborate of soda,‡ and applied to the ulcerated surface, removing it as often as it becomes dry, has been frequently attended with a good effect.

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* In a cancer which had set all medicines, and even surgery, at defiance, I lately saw remarkable effects from an obstinate perseverance in a course of antiseptics. I ordered the deep ulcers to be washed to the bottom by means of a syringe, twice or thrice a-day, either with an infusion of the bark, or a decoction of carrot, and that the patient should take, four or five times a-day, a glass of good wine, with half a drachm of the best powdered bark in it. The sores, after being washed, were likewise sprinkled with the same powder. When the patient began this course, her death was daily expected. She continued it for about two years, with manifest advantage; but being told by an eminent surgeon, that the bark would not cure a cancer, and that the sores ought not to be washed, she discontinued the practice, and died in a few weeks. This course was not expected to cure the cancer, but to prolong the patient's life, which it evidently did almost to a miracle.

† Take Diluted Nitric Acid, 1 ounce.
Honey, 2 ounces.
Pure Water, 2 pints.
Mix. Three table-spoonsful are to be taken frequently throughout the day.

‡ Take Solution of Subborate of Soda, 3 drachms.
Extract of Henbane, 2 drachms.
Distilled Water made warm, 8 oz.
Make a lotion, to be applied to the part affected.

When all other medicines fail, recourse must be had to opium, as a kind of solace. This will not, indeed, cure the disease, but it will ease the patient's agony, and render life more tolerable while it continues.

To avoid this dreadful disorder, people ought to use wholesome food; to take sufficient exercise in the open air; to be as easy and cheerful as possible; and carefully to guard against all blows, bruises, and every kind of pressure upon the breasts, or other glandular parts.*

In the long catalogue of human affections, there is scarcely one to be more dreaded than the cancer. It is no less painful than loathsome; it kills by inches; is seldom cured except by the knife; and even that does not always succeed. I have frequently seen small tumours in the breast, which might perhaps have ended in cancers, yield to the camphorated mercurial ointment, applied twice a-day; but after the scirrhus had broke and become a cancer, I do not remember having ever seen it cured; nor do I believe that the whole *materia medica* can afford a remedy for it.

Yet there are plenty of people in London who *cure cancers;* and no one, who has a sufficient share of faith, can be at a loss for a cancer-doctor. One may see even the fronts of houses inscribed with the words, "Cancers *cured here*," in large characters. I lately had a patient, who once fancied that her breast was a little cancerous, and, under that impression, was kept for two years in the hands of a female cancer-curer, though the lady in reality had not the least symptom of a cancer about her.†

But credulity is a disease of the mind still more incurable than cancers. I had occasion, a few years ago, to make several visits at the house of one of the richest merchants in London, whose sister was afflicted at the time with a cancer; and though she lived in the same house, I was never desired to look at her. Blind credulity prevailed over reason. Her cure was entrusted to an American quack, who knew just as much as my lady's lap-dog, of the nature and proper treatment of cancers. He only helped to kill her, which the disease might ultimately have done: yet surely she ought to have had better advice.

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* As hemlock is the principal medicine recommended in this disease, we would have given some directions for the gathering and preparing of that plant; but as its different preparations are now kept in the shops, we think it much safer for people to get them there, with proper directions for using them.

† In a work lately published on cancer by a Mr. Carmichael, a number of cases are adduced in favour of the utility of iron as a remedy in this disease. The preparation of this metal, to which he gives the preference, is the carbonate, that is, the precipitate formed by saturating a solution of the salt of steel (*ferrum vitriolatum*) with the fixed alkali. Its properties are nearly the same as those of the rust of iron, when properly prepared. Of this the patient may take to the extent of a drachm per day, formed into pills, with the addition of any aromatic, to make it sit more easily on the stomach. The same preparation, finely levigated, may also be advantageously sprinkled on the surface of the sore; or a wash, made by diluting the muriated tincture of steel with water, may be used. This answers well also as an injection, when the uterus is the seat of the complaint. On the authority of this gentleman, whose practice appears to be founded on experience, and is detailed with candour, in so deplorable a disease, the remedy proposed by him certainly merits a trial. A. P. B.

CHAP. XXXIV.

POISONS.

Every person ought, in some measure, to be acquainted with the nature and treatment of poisons. They are not unfrequently taken unawares, and their effects are often so sudden and violent, as not to admit of delay, or allow time to procure the assistance of medical men.

There are four kinds of poisons; viz. mineral, vegetable, aerial, and animal.

Mineral poisons are distinguished from vegetable ones by their action. The former corrode, stimulate, and inflame; the latter generally stupify, without leaving any marks of inflammation.

None of the mineral poisons prove fatal, till after a most excruciating operation of at least two or three hours; whereas some of the vegetable ones terminate life in a few minutes. From the animal poisons the distinction is as remarkable. The aerial poisons operate still more quickly than any other classes, and their action on respiration is of so peculiar and immediate influence, that it can seldom be mistaken.

Poison seldom remains long in the stomach before it occasions sickness, with an inclination to vomit. This shows plainly what ought to be done. Indeed, common sense dictates to every one, that if any thing has been taken into the stomach which endangers life, it ought immediately to be discharged. Were this duly regarded, the danger arising from poisons might often be avoided.

MINERAL POISONS. These consist of corrosive metallic salts; e. g. Arsenic and its preparations; Corrosive Sublimate, &c.

Symptoms.—When a medical poison has been swallowed,* the symptoms are an austere taste, fetid breath, constriction of the pharynx and gullet; hiccup; nausea and vomiting of brown or bloody matter; anxiety and faintings; heat with violent pain at the pit of the stomach; black and offensive stools; small pulse; frequent and irregular palpitations; great thirst and burning heat; breathing difficult; urine scanty, red and bloody; delirium; convulsions of an epileptic type, and death.

Treatment.—Vomiting to be immediately excited; and encouraged by large and long-continued draughts of sugared water, linseed tea, or other emollient fluids. If arsenic has been taken in solution, lime-water, or chalk and water, may be drank freely. Inflammatory symptoms are to be combated; bleeding from the arm, and leeches to the region of the stomach; fomentations, frequent emollient clysters, as symptoms may require.

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* In the Philosophical Transactions for 1811, Mr. Brodie has shown by experiments, that the external application of arsenious acid to abraded surfaces, is analogous with its internal exhibition, but often more rapid in its effects by the latter than the former mode. Ed.

For arsenic no specific antidote is yet known. Fat, oil, vinegar, charcoal powder, lime of sulphur, and vegetable decoctions, which have been recommended, are not to be relied on.

Tests.—To ascertain when arsenic is present in any fluid, a solution of the ammoniacal sulphate of copper added to it, produces, generally, a beautiful grass green precipitate; but if added to wine, the precipitate would be a dark-coloured blue. Sulphureted hydrogen precipitates arsenic from tea of a beautiful yellow colour, and changes a solution of arsenic in water of a yellow colour, without any precipitate. From albumen, gelatine and bile, containing arsenic in solution, nitrate of silver produces a white precipitate. The ammoniaco-nitrate of silver produces a yellow precipitate, soluble in nitric acid and ammonia; but the presence of muriates or phosphates, or their acids, renders this a fallacious test.

Make with the suspected fluid a broad streak on writing paper, then draw a piece of lunar caustic several times over the moistened part, which will become yellow if arsenic or alkaline phosphate be present. If it be arsenic, the streak will be rough, curdy, and flocculent, as if done with a crayon; if a phosphate, homogeneous and uniform. In a few minutes the phosphoric yellow fades into a dull green, becomes darker, and ultimately black. The arsenical yellow remains permanent, or nearly so, for some time, when it becomes brown. These distinctions are to be viewed by reflected, not transmitted light, the test being made in the shade.

The most certain test to detect the presence of arsenic, is to reduce it to its metallic state, by calcining the dried suspected matter in a glass tube, with equal parts of charcoal and potash; when, if arsenic be present, in however minute a quantity, it will be sublimed and stick to the inside of the tube, in the form of a shining metallic coating, consisting of cubic crystals.

Antimony, and its Preparations.

Emetic Tartar, &c.—When an excess of emetic tartar, or any other of the preparations of antimony have been taken, we may remark the following

Symptoms, viz. Those occasioned by acids, with copious and obstinate vomitings, abundant stools, constrictions of the throat, cramps, symptoms of intoxication, and prostration of strength.

Treatment.—Emetic tartar generally defeats itself by the vomiting it soon occasions after it is taken; but when this does not take place, it should be excited by tickling the throat with a feather or the finger; and encouraged by copious draughts of mild fluids; or when too severe, to be allayed by opium according to the effects previously produced by the poison.

The best antidotes are, decoction of astringent vegetables, such as oak or willow bark, gall nuts, strong green tea, &c., which should be given freely for the purpose of diluting and decomposing the poison.

Tests.—Sulphureted hydrogen, and the hydrosulphurets, precipitate tartarized antimony from its solution of an orange or deep brownish red colour; white, by sulphuric acid, alkalies, barytes or

lime water. Alkaline and earthy neutral salts do not affect it; but salts with excess of acid do. Infusion of gall, occasions a copious whitish-yellow precipitate. The muriate of antimony is a dark, heavy fluid, to which, if water be added, a white precipitate is formed. The oxide is soluble in muriatic acid, by which the muriate is formed.

*** All the preparations of antimony are readily reduced to the metallic state by calcination with charcoal and potash.

COPPER, AND ITS PREPARATIONS. *(Sulphate of copper, or blue vitriol; subacetate of copper, or verdigrise. Food cooked in foul copper vessels, and pickles made green by copper.)*

Symptoms.—Acrid and coppery taste; tongue parched and dry; constriction of the throat and coppery eructations; severe vomitings, or fruitless efforts to vomit; dragging at the stomach; dreadful colic; frequent black bloody stools with tenesmus: abdomen distended; pulse small, hard, and quick; syncope; great thirst and anxiety; cold sweats, scanty urine; pain in the head, vertigo, cramps, convulsions, and death.

Treatment.—Large draughts of milk and water to encourage vomiting. Whites of eggs stirred up with water, and taken freely. Inflammation to be attacked as a general principle, and the nervous symptoms by anodynes and antispasmodics. Sugar, as first promulgated by Orfila, is not a specific, but it may be given advantageously with coffee.

Tests.—The salts of copper are mostly of a bright green or blue colour, and are easily reduced to their metallic state by means of charcoal, at an elevated temperature. The sulphate of copper is partly decomposed by alkalies and alkaline earths. Potash precipitates a subsulphate of a green colour from it.

If the salts of copper be dissolved in coffee, port wine, or malt liquors, which partly decompose them, they may be detected by adding a spirituous tincture of guaiacum, which will throw down a precipitate varying in shade from a greenish indigo to that of a pale green. Ammonia added to a solution of any cupreous salt, gives a blue or greenish precipitate, according to the quantity; but, if added in excess, it re-dissolves the precipitate, and forms a deep blue transparent solution.

LEAD AND ITS PREPARATIONS; or fluids adulterated with lead.

Symptoms.—When lead has been taken in large quantity, a sugary astringent metallic taste is felt in the mouth; constriction of the throat; pain in the region of the stomach; obstinate, painful, and often bloody vomiting hiccup; convulsions and death.

When taken in small long-continued doses, it produces Devonshire colic (*colica pictonum,*) and paralytic symptoms.

Treatment.—See *Alkaline Earths.*—In addition to which, if symptoms suggest it, bleeding must be used; in conjunction with castor oil with or without opium, assisted by frequent emollient clysters to clean out the bowels. The warm bath, &c.

Tests.—All the preparations of lead are easily reduced to their metallic state by calcination with charcoal.

The superacetate of lead (sugar of lead) dissolved in water is precipitated white by means of sulphuric acid; of a canary colour by chromate of potash and chromic acid; both of which are easily reduced by calcination. The alkaline sulphurets precipitate the superacetate of lead of a blackish colour.

MERCURY, AND ITS PREPARATIONS; e. g. *Oxymuriate of mercury, or corrosive sublimate; nitric oxide of mercury, or red precipitate; sulphuret of mercury, or vermilion.*

Symptoms.—Acrid metallic taste, thirst, fulness and burning at the throat; anxiety, teasing pains of the stomach and bowels; nausea and vomiting of various coloured fluid, sometimes bloody; diarrhœa and *dysuria*, or difficulty of making water. Pulse quick, small, and hard: faintings, great debility, difficult breathing, cramp, cold sweats, insensibility, death.

Treatment.—Whites of eggs decompose corrosive sublimate. One mixed with water may be given every two or three minutes to promote vomiting, and to lessen the virulence of the poison; milk in large quantities, gum-water, or linseed-tea, sugar and water, or water itself at about 80°. Gluten, as it exists in wheat-flour, also decomposes sublimate, and should be given mixed with water. Inflammation to be anticipated, and treated by the usual remedies.

Tests.—Mercurial preparations heated to redness in a glass tube with potash, are decomposed; the quicksilver being volatilized. The oxymuriate or sublimate is precipitated white by ammonia; yellow by potash; and of an orange colour by lime-water. By nitrate of tin, a copious dark brown precipitate is formed; and by albumen mixed with cold water, a flocculent one.

The red and nitric oxides may be dissolved in muriatic acid and converted into sublimate.

Vermilion is insoluble in water or muriatic acid; but is entirely volatilized by heat.

SILVER, NITRATE OF. *(Lunarcaustic.)*

Symptoms similar to those occasioned by other corrosive poisons.

Treatment.—A table-spoonful of the muriate of soda *(common salt)* dissolved in a pint of water, and a wine-glassful to be taken every two minutes, to decompose the poison; after which mucilaginous drenches or purgatives may be administered.

Tests.—Nitrate of silver is precipitated white by muriate of soda; yellow by phosphate and chromate of soda. If placed on burning coals, it animates them, leaving a coating of silver; calcined with charcoal and potash, the silver is reduced to its metallic state.

ZINC, SULPHATE OR OXYD OF.

Symptoms.—A sour taste, sense of choking, nausea, vomiting, pain in the stomach, frequent stools, difficult breathing, quickened pulse, face pale, cold extremities, but seldom death from the emetic qualities of the poison.

Treatment.—Vomiting is rendered easy by copious draughts of warm water, and particular symptoms to be opposed by appropriate remedies.

Tests.—Pure sulphate of zinc is precipitated white by potash and ammonia; yellowish white, by the alkaline hydrosulphurets; and of an orange colour by the chromate of lead.—The oxide is readily reduced by calcination with charcoal and nitre.

ACIDS: e. g. *Sulphuric acid, or oil of vitriol. Nitric acid, or aqua fortis. Muriatic acid, or spirit of salt. Oxalic acid, or acid of sugar. Phosphoric, Fluoric, Tartaric, Prussic.*

General symptoms.—Acid burning taste in the mouth, acute pain in the throat, stomach, and bowels, frequent vomiting of bloody fluid, which effervesces with chalk, or alkaline carbonates, and reddens litmus paper; hiccup; copious stools, more or less bloody; tenderness of the abdomen; difficult breathing; irregular pulse; excessive thirst; drink increasing the pain, and seldom staying down; frequent but vain efforts to make water; cold sweats; altered countenance; convulsions; death.

Treatment.—Mix an ounce of calcined magnesia with a quart of water, and give a wine-glassful every two minutes. Soap-suds or chalk and water may be used till magnesia be procured. Vomiting to be excited by tickling the throat with a feather. Diluents to be taken after the poison is neutralized or ejected. Inflammations and other consequences to be treated in the ordinary way.

If the sulphuric acid, vulgarly called the oil of vitriol, has been swallowed, water alone should not be given, nor should calcined magnesia with water be given: but the common carbonate of magnesia may be given freely when mixed with water. If these precautions be not observed there is too much heat generated in the stomach.

If oxalic acid has been taken, chalk and water is preferable to magnesia.

If Prussic acid* has been taken, emetics are to be administered with as little delay as possible, and after their operation, oil of turpentine, ammonia, brandy, and other stimulants capable of rousing the system, should be perseveringly employed, with warmth, friction, and blisters.

Tests.—Sulphuric acid is known by its great weight, by its evolving heat when mixed with water; by emitting no fumes. If barytes be added to it, a sulphate is formed, (sulphate of barytes,) which is insoluble in water or nitric acid.

Nitric acid emits orange-coloured fumes upon adding copper to it, by which it is changed blue. If potash be added to it, a nitrate is formed (nitrate of potash) which deflagrates when thrown on burning coals. It tinges the skin yellow.

Muriatic acid emits pungent fumes. If nitrate of silver be added to it, a very white precipitate is formed of muriate of silver, soluble in ammonia, but not in nitric acid.

Oxalic acid precipitates lime and all its salts from water; the

* Prussic acid is the most violent of poisons, producing almost instant death when applied even in small quantities to the surface of the body. Ed.

precipitate being soluble in nitric, but not in an excess of oxalic acid. Exposed to heat it volatilizes, leaving but a little residue. It is decomposed by sulphuric acid, becoming brown; it is dissolved by heat and nitric acid, and rendered yellow. Muriatic acid dissolves and decomposes it with heat. Oxalic acid also turns it to a light-brown red.

Phosphoric acid precipitates barytes and lime-water; the precipitate being soluble in nitric acid. It is decomposed by charcoal at a high temperature, evolving carbonic acid, and phosphorus being sublimed.

Fluoric acid exhales white vapours, not dissimilar to those of muriatic acid; heat is evolved with a hissing noise when water is added to it: it dissolves glass.

Tartaric acid produces a precipitate from lime-water, soluble in an excess of acid, and in nitric also; with potash it forms a *neutral* and *supersalt*. It does not precipitate solution of silver, but its salts do.

Prussic acid has a strong odour of bitter almonds, and is contained in that fruit, and in the leaves of the peach and the laurel; it is soluble in alcohol, but hardly in water, and is precipitated in its solution by nitrate of silver.

ALKALIES. *(Potash, Soda, Ammonia.)*

Symptoms.—The symptoms of having swallowed an alkali in excess are, an acid, urinous and acrid taste in the mouth; great heat in the throat, nausea and vomiting of bloody matter, which changes syrup of violets to green, and effervesces with acids, if the *carbonated* form of the acid has been taken; copious stools; acute pain of the stomach, colic, convulsions, death.

Treatment.—Give vinegar and other vegetable acids largely, to neutralize the alkali; and treat the concomitant symptoms upon general principles.

Tests.—Alkalies have many properties in common; their solutions feel soapy; they change vegetable blues to green, and yellow to brown; remain transparent when carbonic acid is added to them, which serves to distinguish them from the alkaline earths, barytes, strontium, and lime. Nitrate of silver is precipitated by them in form of a dark coloured oxide, soluble in nitric acid.

*** Potash and soda may be distinguished from each other by evaporating their solutions to dryness; potash will become moist by absorbing water from the atmosphere, while soda will remain dry. Ammonia is known by its pungent smell.

ALKALINE EARTHS. *(Lime, Barytes, Pure Barytes, Carbonate and Muriate of.)*

Symptoms. Violent vomitings, convulsions, palsy of the limbs, distressing pains in the abdomen, hiccup, alteration of the countenance, and very early death.

Treatment.—If lime has been taken, vinegar and other vegetable acids are the best antidotes.

If barytes, in any of its forms, has been swallowed, a weak solution of Epsom or Glauber's salt should be copiously drank, to

produce vomiting; and, at the same time, to decompose the poison, which it renders inert, by forming an insoluble sulphate. Till either of the above salts can be obtained, large draughts of water alone, or made slightly sour by sulphuric acid, may be freely drank.

Tests.—Solution of lime changes vegetable blues to green, and is precipitated white by carbonic and oxalic acid, while no change is produced on it by sulphuric acid; its salts are decomposed by the fixed alkalies, which precipitate the lime, but not the ammonia.

Pure barytes undergoes similar changes to lime when water is added to it, and acts like it on vegetable colours. It does not effervesce with acids. Sulphuric acids, and all the sulphates added to a solution of it, produce a white precipitate, insoluble in water and nitric acid. Carbonate of barytes is insoluble in water, but dissolves in nitric and muriatic acid in a state of effervescence. Muriate of barytes dissolved in water, is not changed by pure ammonia, but its carbonates, as well as all other alkaline carbonates, throw down a white precipitate, which is carbonate of barytes.

NITRE. *(Salt-petre; Nitras Potassæ.)*

Symptoms.—Cardialgia, nausea, painful vomiting, purging, convulsions, syncope, with feeble pulse, cold extremities, teasing pains of the stomach and bowels; difficulty of breathing, a species of intoxication, and often death.

Treatment.—Similar to that of arsenic, only that lime is not to be used.

HYDROPHOBIA.

The disease is most frequent after long, dry, hot seasons; and such dogs as live upon putrid stinking carrion, without having enough of fresh water, are most liable to it.

When any person has been bit by a dog, the strictest enquiry ought to be made whether the animal was really mad. Many disagreeable consequences arise from neglecting to ascertain this point. Some people have lived in continual anxiety for many years, because they had been bit by a dog which they believed to be mad; but, as he had been killed on the spot, it was impossible to ascertain the fact. This should induce us, instead of killing a dog the moment he has bit any person, to do all in our power to keep him alive, at least till we can ascertain whether he be mad or not.

The poison of hydrophobia is generally communicated by a wound, which nevertheless heals as soon as a common wound.

Symptoms.—At an uncertain interval after the bite, generally, however, between the twentieth day and three or four months, pain or uneasiness occurs in the bitten part, though the wound may have been long healed.

Anxiety, languor, spasms, horror, disturbed sleep, difficult respiration, succeed, and are soon very much increased; violent convulsions affect the whole body, hideously distorting the muscles of the face; the eyes are red and protruded; the tongue swells, and

often hangs out, and viscid saliva flows from the mouth; there is pain in the stomach, with bilious vomitings, a horror of fluids, and impossibility of drinking them. All these symptoms are aggravated till the sufferer is relieved by death.

TREATMENT.—The common notion, that this poison may lie in the body for many years, and afterwards prove fatal, is both hurtful and ridiculous. It must render such persons as have had the misfortune to be bit very unhappy, and can have no good effects. If the person takes proper medicines for forty days after the time of his being bit, and feels no symptoms of the disease, there is reason to believe him out of danger. Some have indeed gone mad twelve months after being bit, but seldom later.

It is now well known that hydrophobia is more easily prevented than cured; in fine, it is very doubtful if ever it has been cured. Mercury, arsenic, opium, musk, camphor, acids, wine, vegetable and mineral alkali, oil, various herbs, and many other articles, whose effects are diametrically opposite, have been employed without benefit. Large blood-lettings, injecting water into the veins, warm and cold bath, in short, every thing that could possibly be suggested as a remedial agent, have been adopted with no better success.

To ensure effectually the person bitten by a mad dog against the consequences, it is strongly recommended, immediately or as soon after the accident as possible, to have the bitten part completely cut out; after which bleeding should be promoted by warm fomentations, and a cupping-glass applied over the part, until it give evident marks of its exhausting power. On the removal of this glass the wound is to be washed frequently with a weak solution of muriatic acid (forty drops to a pint of water,) and a piece of lint or rag, moistened in the same, left on the part, and renewed as it becomes dry. Should some degree of inflammation ensue, as most likely will be the case, the solution may then be laid aside, the wound dressed with dry lint, and a copious suppuration promoted by means of warm poultices, healing afterwards the wound in the usual way.

During this treatment the patient must take two of the following pills at bed-time* every night, for three weeks or a month after the accident.

No other plan can ensure safety.

After all that has been said, and the little confidence assigned to any practice but that of early cutting out or cauterizing the part, it is nevertheless always necessary that something should be done after the actual commencement of the symptoms of hydrophobia, and every practitioner should be prepared for the adoption of some mode of treatment or other. A modern writer observes, "that experience authorizes the placing confidence in bleeding till the patient faints; on vomiting; and, perhaps, on the use of the deadly nightshade; and on tobacco exhibited as a clyster. That it is probable advantage would result from the combined employment of bleeding and vomiting, and purging in the early stage of the dis-

* Take Mercurial Pill, 1 drachm. Extract of Hemlock, 10 grains.
Powdered Rhubarb, 2 scruples. Make 20 pills, to be taken as above.

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lent kind. Nine-tenths of the effects attributed to poison or venom in this country, are really other diseases, and proceed from quite different causes.

We cannot, however, make the same observation with regard to poisonous vegetables. These abound everywhere, and prove often fatal to the ignorant and unwary. This indeed is chiefly owing to carelessness. Children ought early to be cautioned against eating any kind of fruit, roots, or berries, which they do not know; and all poisonous plants to which they can have access, ought, as far as possible, to be destroyed. This would not be so difficult a task as some people imagine.

Poisonous plants have no doubt their use, and they ought to be propagated in proper places; but, as they often prove destructive to cattle, they should be rooted out of all pasture grounds. They ought likewise, for the safety of the human species, to be destroyed in the neighbourhood of all towns and villages; which, by the bye, are the places where they most commonly abound. I have seen the poisonous hemlock, henbane, wolfsbane, and deadly-nightshade, all growing within the *environs* of a small town, where, though several persons, within the memory of those living in it, had lost their lives by one or other of these plants, yet no method, that I could hear of, had ever been taken to root them out; though this might be done at a very trifling expence.

Seldom a year passes, but we have accounts of several persons poisoned by eating hemlock-roots instead of parsnips, or some kinds of fungus which they had gathered for mushrooms. These examples ought to put people upon their guard with respect to the former, and to put the latter out of use. Mushrooms may be a delicate dish; but they are a dangerous one, as they are generally gathered by persons who do not know one kind of fungus from another, and take every thing for a mushroom which has that appearance.

We might here mention many other plants and animals of a poisonous nature, which are found in foreign countries; but, as our observations are chiefly intended for this island, we shall pass them over. It may not, however, be amiss to observe, for the benefit of such of our countrymen as go to America, that an effectual remedy is now said to be found for the bite of the rattlesnake. The prescription is as follows:—Take of the herbs plantain and horehound, in summer, roots and branches together, a sufficient quantity: bruise them in a mortar, and squeeze out the juice; of which give, as soon as possible, one large spoonful: if the patient be swelled, you must force it down his throat. This generally will cure; but, if he finds no relief in an hour after, you may give another spoonful, which never fails.—If the roots are dried, they must be moistened with a little water. To the wound may be applied a leaf of good tobacco moistened with rum.

We give this upon the faith of Dr. Brookes, who says it was the invention of a negro; for the discovery of which he had his freedom purchased, and a hundred pounds *per annum* settled upon him during life, by the General Assembly of Carolina.

It is possible there may be in nature specific remedies for every kind of poison; but as we have very little faith in any of those

which have yet been pretended to be discovered, we shall beg leave again to recommend the most strict attention to the following rules, *viz.* That when any poisonous substance has been taken into the stomach, it ought, as soon as possible, to be discharged by vomits, clysters, and purges; and, when poison has been received into the body by a wound, that it be expelled by medicines which promote the different secretions, especially those of perspiration and urine; to which may be added antispasmodics, or such medicines as take off tension and irritation; the chief of which are opium, musk, camphor, and asafœtida.

PART III.

CHAP. I.

OF SURGERY.

To describe all the operations of surgery, and to point out the different diseases in which these operations are necessary, would extend this article far beyond the limits allotted to it; we must therefore confine our observations to such cases as most generally occur, and in which proper assistance is either not asked, or not always to be obtained.

Though an acquaintance with the structure of the human body is indispensably necessary to qualify a man for being an expert surgeon; yet many things may be done to save the lives of their fellow-men in emergencies by those who are not adepts in anatomy. It is amazing with what facility the peasants daily perform operations upon brute animals, which are not of a less difficult nature than those performed on the human species; yet they seldom fail of success.

Indeed every man is in some measure a surgeon, whether he will or not. He feels an inclination to assist his fellow-men in distress, accidents happen every hour, which give occasion to exercise this feeling. The feelings of the heart, however, when not directed by the judgment, are apt to mislead. Thus one, by a rash attempt to save his friend, may sometimes destroy him; while another, for fear of doing amiss, stands still and sees his bosom-friend expire, without so much as attempting to relieve him, even when the means are in his power. As every good man would wish to steer a course different from either of these, it will no doubt be agreeable to him to know what ought to be done upon such emergencies.

Bleeding.

No operation of surgery is so frequently necessary as bleeding; it ought therefore to be very generally understood. But though practised by midwives, gardeners, blacksmiths, barbers, and tooth-drawers, we have reason to believe that very few know when it is proper. Even physicians themselves have been so much the dupes of theory in this article, as to render it the subject of ridicule. It is, however, an operation of great importance, and must, when

seasonably and properly performed, be of singular service to those in distress.

Bleeding is proper at the beginning of all inflammatory fevers, as pleurisies, peripneumonies, &c. It is likewise proper in all topical inflammations, as those of the intestines, womb, bladder, stomach, kidneys, throat, eyes, &c. as also in the asthma in certain cases, head-achs, acute rheumatism, apoplexy, epilepsy, and bloody flux under certain states. After falls, blows, bruises, or any violent hurt received either externally, or internally, bleeding is necessary. It is likewise necessary for persons who have had the misfortune to be strangled, drowned, suffocated with foul air, the fumes of metal, or the like. In a word, whenever the vital motions have been suddenly stopped from any cause whatever, except in swoonings occasioned by mere weakness or hysteric affections, it is proper to open a vein. But in all disorders proceeding from relaxation of the solids, and an impoverished state of the blood, as dropsies, cacochymies, &c. bleeding is improper.

Bleeding for topical inflammations ought always to be performed as near the part affected as possible. When this can be done with a lancet, it is to be preferred to any other method; but where a vein cannot be found, recourse must be had to leeches or cupping.

The quantity of blood to be taken away must always be regulated by the strength, age, constitution, manner of life, and other circumstances relating to the patient. It would be ridiculous to suppose that a child could bear to lose as much blood as a grown person, or that a delicate lady should be bled to the same extent as a robust man.

The mode of bleeding most frequently practised, is that of opening a vein; and it may be done in the arm, ancle, jugular vein, frontal vein, veins under the tongue, and on the back of the hand, &c. In whatever part, however, venesection is performed, a bandage must be applied between that part and the heart. As it is often necessary, in order to raise the vein, to make the bandage pretty tight, it will be proper in such cases, as soon as the blood begins to flow, to slacken it a little. The bandage ought to be applied at least an inch, or an inch and a half from the place where the puncture is intended to be made. Thus, the return of the blood through the vein is stopped, the vein swells, becomes conspicuous, and when opened, bleeds much more freely than would otherwise happen.

Persons not skilled in anatomy ought never to bleed with the lancet in a vein that lies over an artery or a tendon, if they can avoid it.* The former may easily be known from its pulsation or beating, and the latter from its feeling hard or tight like a whip-cord under the finger.

It was formerly a rule, even among those who had the character of being regular practitioners, to bleed their patients in certain diseases till they fainted. Surely a more ridiculous rule could not be proposed. One person will faint at the very sight of a lancet,

* Persons not skilled in anatomy ought never to bleed at all. The risk is greater than the benefit; as the advantage to be derived from such a step must depend on practical knowledge. Ed.

while another will lose almost the whole blood of his body before he faints. Swooning depends more upon the state of the mind than of the body: besides it may often be occasioned or prevented by the manner in which the operation is performed.

Children are generally bled with leeches. This, though sometimes necessary, is a very troublesome and uncertain practice. It is impossible to know what quantity of blood is taken away by leeches; besides, the bleeding is often very difficult to stop, and the wounds are not easily healed. Would those who practise bleeding take a little more pains, and accustom themselves to bleed children, they would not find it such a difficult operation as they imagine.

Certain vulgar prejudices with regard to bleeding still prevail among the country people. They talk, for instance, of head-veins heart-veins, breast-veins, &c. and believe that bleeding in these will certainly cure all diseases of the parts whence they are supposed to come, without considering that all the blood-vessels arise from the heart, and return to it again; for which reason, unless in topical inflammations, it signifies very little from what part of the body blood is taken. But this, though a foolish prejudice, is not near so hurtful as the vulgar notion that the first bleeding will perform wonders. This belief makes them often postpone the operation when necessary, in order to reserve it for some more important occasion, and, when they think themselves in extreme danger, they fly to it for relief, whether it be proper or not. Bleeding at certain stated periods or seasons has likewise bad effects.

It is a common notion that bleeding in the feet draws the humours downwards, and consequently cures diseases of the head and other superior parts; but we have already observed that, in all topical affections, the blood ought to be drawn as near the part as possible. When it is necessary, however, to bleed in the foot or hand, as the veins are small, and the bleeding is apt to stop too soon, the part ought to be immersed in warm water, and kept there till a sufficient quantity of blood be let.

All the apparatus essential for blood-letting, on the part of the patient, is a bandage or fillet, two or more small pieces of folded linen for compresses, a bason to receive the blood, and a little clean water and a towel. The bandage ought to be about a yard in length, and near two inches broad, a common riband or garter being frequently employed. The compresses are made by doubling a bit of linen rag about two inches square. On the part of the surgeon, it is necessary for him to have a good lancet, of proper shape; for if the shoulders of the lancet be too broad, it will not readily enter the vein, and when it does enter, it invariably makes a large opening, which is not always desirable. If the lancet be too spear-pointed, an incautious operator would often run a risk of transfixing the vein, and wounding the artery beneath it. More, however, depends on the mode of introducing the lancet than on its shape.

During the operation of bleeding, the patient may lie down, sit down, or stand up, each of which positions may be chosen, as circumstances may require. If the patient be apt to faint from the loss of a small quantity of blood, and such fainting can answer no

surgical purpose, it is best to bleed him in a recumbent posture. But when the person is strong and vigorous, there is little occasion for this precaution, and a sitting posture is to be preferred, as the most convenient, both for the surgeon and patient.

At the bend of the arm, there are several veins in which a puncture may be made, viz. the basilic, cephalic, median basilic, and median cephalic. The median basilic vein being usually the largest and most conspicuous, is that in which the operation is mostly performed; but it should never be forgotten, that it is under this vessel that the brachial artery runs, with the mere intervention of the thin aponeurotic sheath, sent off by the biceps muscle. In very thin persons, indeed, the medial basilic vein lies almost close to the artery, and nothing is then more easy than to transfix the first of these vessels and wound the last.

In fat subjects, the large veins at the bend of the arm are sometimes totally imperceptible, notwithstanding the fillet is tightly applied, the limb is put in warm water, and every thing done to make those vessels as turgid as possible. Under these circumstances, if the surgeon has not had much experience in the practice of venesection, he will do well to be content with opening one of the veins of the back of the hand, after putting the member for some time in warm water, and applying a ligature round the wrist.

In children, a sufficient quantity of blood cannot always be obtained by venesection, and, in this event, the free application of leeches, and, occasionally, the puncture of the temporal artery, are the only effectual methods.

One of the most common ill consequences of bleeding in the arm is a thrombus, or ecchymosis, that is, a small tumour around the orifice, and occasioned by the blood insinuating itself into the adjoining cellular substance, at the time this fluid is escaping from the vein. Changing the posture of the arm will frequently hinder the thrombus from increasing in size, so as to obstruct the evacuation of blood. The best applications for promoting the absorption of these tumours, are those containing spirit, vinegar, or muriate of ammonia. Compresses wetted with any lotion of this sort, may be advantageously put on the swelling, and confined there with a slack bandage.

The integuments and subjacent cellular substance, the absorbents, the vein, &c. are all liable to inflammation, in consequence of bleeding, a nerve also may be wounded, all requiring proper surgical treatment.

Topical Blood-letting.

This is performed either by means of a scarificator and cupping-glass, or leeches, or by dividing the visibly distended vessels with a lancet, as is frequently done in cases of inflammation of the eye.

Inflammations and Abscesses.

From whatever cause inflammation proceeds, it must terminate either by dispersion, suppuration, or gangrene. Though it is impossible to foretel with certainty in which of these ways any particular inflammation will terminate, yet a probable conjecture may

be formed with regard to the event, from a knowledge of the patient's age and constitution. Inflammations happening in a slight degree upon colds, and without any previous indisposition, will most probably be dispersed; those which follow close upon a fever, or happen to persons of a gross habit of body, will generally suppurate; and those which attack very old people, or persons of a dropsical habit, will have a strong tendency to gangrene.

If the inflammation be slight, and the constitution sound, the dispersion ought always to be attempted. This will be best promoted by a slender diluting diet, plentiful bleeding, and repeated purges. The part itself must be fomented, and, if the skin be very tense, it may be embrocated with a mixture of three-fourths of sweet oil, and one-fourth of vinegar, and afterwards covered with a piece of wax-plaster.

If, notwithstanding these applications, the symptomatic fever increases, and the tumour becomes larger, with violent pain and pulsation, it will be proper to promote the suppuration. The best application for this purpose is a soft poultice, which may be renewed twice a-day. If the suppuration proceeds but slowly, a raw onion cut small or bruised may be spread upon the poultice. When the abscess is ripe or fit for opening, which may easily be known from the thinness of the skin in the most prominent part of it, fluctuation of matter, which may be felt under the finger, and, generally speaking, an abatement of the pain, it may be opened either with a lancet, or by means of caustic.

The last way in which an inflammation terminates, is in a gangrene or mortification, the approach of which may be known by the following symptoms:—The inflammation loses its redness, and becomes duskish or livid; the tension of the skin goes off, and it feels flabby; little bladders filled with ichor of different colours spread all over it; the tumour subsides, and from a duskish complexion becomes black; a quick low pulse, with cold clammy sweats, are the immediate forerunners of death.

When these symptoms first appear, the part ought to be dressed with London treacle, or a cataplasm made of lixivium and bran. Should the symptoms become worse, the part must be scarified, and afterwards dressed with basilicum softened with oil of turpentine. All the dressings must be applied warm. With regard to internal medicines, the patient must be supported with generous cordials, and the Peruvian bark exhibited in as large doses as the stomach will bear it. If the mortified parts should separate, the wound will become a common ulcer; and must be treated accordingly.

This article includes the treatment of all those diseases, which, in different parts of the country, go by the names of *biles*, *imposthumes*, *whitloes*,* &c. They are all abscesses in consequence of a

* A whitloe is a very painful complaint. It is generally caused by a small quantity of purulent matter lodged very deep, and compressed by the hard unyielding skin covering the finger. The pain may be instantly relieved by making a pretty deep incision with a lancet. The skin should also be rather freely divided, which will prevent the compression of the fungous flesh that is frequently thrown out from a whitloe, and which, when girt by the skin, occasions great pain. The wound may be dressed with a little Peruvian balsam spread on lint. An incipient whitloe may occasionally be dispersed by immersing the part in water as hot as it can be borne. A. P. B.

previous inflammation, which, if possible, ought to be discussed; but, when this cannot be done, the suppuration should be promoted, and the matter discharged by an incision, if necessary; afterwards, the sore may be dressed with yellow basilicum, or some other digestive ointment.

Wounds.

No part of medicine has been more mistaken than the treatment or cure of wounds. Mankind in general believe that certain herbs, ointments, and plasters, are possessed of wonderful healing powers, and imagine that no one can be cured without the application of them. It is, however, a fact, that no external application whatever contributes towards the cure of a wound, any other way than by keeping the parts soft, clean, and defending them from the external air, which may be as effectually done by dry lint, as by the most pompous applications, while it is exempt from many of the bad consequences attending them.

The same observation holds with respect to internal applications. These only promote the cure of wounds as far as they tend to prevent a fever, or to remove any cause that might obstruct or impede the operations of Nature. It is Nature alone that cures wounds. All that art can do is to remove obstacles, and to put the parts in such a condition as is the most favourable to Nature's efforts.

With this simple view we shall consider the treatment of wounds, and endeavour to point out such steps as ought to be taken to facilitate their cure.

The first thing to be done when a person has received a wound, is to examine whether any foreign body be lodged in it, as wood, stone, iron, lead, glass, dirt, bits of cloth, or the like. These, if possible, if it can be conveniently done, ought to be extracted, and the wound cleaned before any dressings be applied. When that cannot be effected with safety, on account of the patient's weakness or loss of blood, they must be suffered to remain in the wound, and afterwards extracted when he is more able to bear it.

When a wound penetrates into any of the cavities of the body, as the breast, the bowels, &c., or where any considerable blood-vessel is cut, a skilful surgeon ought immediately to be called, otherwise the patient may lose his life. But sometimes the discharge of blood is so great, that if it be not stopped, the patient may die, even before a surgeon, though at no great distance, can arrive. In this case, something must be done by those who are present. If the wound be in any of the limbs, the bleeding may generally be stopped by applying a tight ligature or bandage round the member, a little above the wound. The best method of doing this is to put a strong broad garter round the part, but so slack as easily to admit a small piece of stick to be put under it, which must be twisted, in the same manner as a countryman does a cart-rope to secure his loading, till the bleeding stops. Whenever this is the case, he must take care to twist it no longer, as straining it too much might occasion an inflammation of the parts, and endanger a gangrene.

In parts where this bandage cannot be applied, various other methods may be tried to stop the bleeding, as the application of

styptics, astringents, &c. Cloths dipped in a solution of blue vitriol in water, or the *styptic water* of the dispensatories, may be applied to the wound. When these cannot be obtained, strong spirits of wine may be used. Some recommend the *agaric** of the oak as preferable to any of the other styptics; and indeed it deserves considerable encomiums. It is easily obtained, and ought to be kept in every family, in case of accidents. A piece of it must be laid upon the wound, and covered with a good deal of lint, above which a bandage may be applied so tight as to keep it firmly on.

Though spirits, tinctures, and hot balsams, may be used, in order to stop the bleeding from small vessels when it is excessive, they are improper at other times. They do not promote, but retard the cure, and often change a simple wound into an ulcer. People imagine, because hot balsams congeal the blood, and seem, as it were, to solder up the wound, that they therefore heal it; but this is only a deception. They may indeed stop the flowing blood, by searing the mouth of the vessels; but, by rendering the parts callous, they obstruct the cure.

In slight wounds, which do not penetrate much deeper than the skin, the best application is a bit of the common black sticking-plaster. This keeps the sides of the wound together, and prevents the air from hurting it, which is all that is necessary. When a wound penetrates deep, the edges of it, if a clean incised wound, ought to be brought in contact, and retained in that position by means of slips of adhesive plaster, when, in all probability, it will become glued together by what surgeons term the adhesive inflammation. If a deep irregular wound, from blunted instruments, it is not safe to keep the lips quite close; this keeps in the matter, and is apt to make the wound fester. In this case the best way is to fill the wound with soft lint, commonly called *caddis*. It, however, must not be stuffed in too hard, otherwise it will do hurt. The lint may be covered with a cloth dipped in oil, or spread with the common wax-plaster or poultice; and the whole must be kept on by a proper bandage, as circumstances may point out.

The first dressing ought to continue on for at least two days; after which it may be removed, and fresh lint applied as before. If any part of the first dressing sticks so close as not to be removed with ease or safety to the patient, it may be allowed to continue, and fresh lint dipped in sweet oil laid over it. This will soften it so as to make it come off easily at next dressing. Afterwards, the wound may be dressed twice a-day in the same manner till it

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* Dr. Tissot, in his *Advice to the People*, gives the following directions for gathering, preparing, and applying the agaric:—"Gather in autumn," says he, "while the fine weather lasts, the agaric of the oak, which is a kind of fungus or excrescence issuing from the wood of that tree. It consists at first of four parts, which present themselves successively: 1. The outward rind or skin, which may be thrown away. 2. The part immediately under this rind, which is the best of all. This is to be beat well with a hammer, till it becomes soft and very pliable. This is the only preparation it requires, and a slice of it of a proper size is to be applied directly over the bursting open blood-vessels. It constringes and brings them close together, stops the bleeding, and generally falls off at the end of two days. 3. The third part adhering to the second, may serve to stop the bleeding from the smaller vessels; and the fourth and last part may be reduced to powder, as conducing to the same purpose."—Where the agaric cannot be had, sponge may be used in its stead. It must be applied in the same manner, and has nearly the same effects.

be quite healed. Those who are fond of salves or ointments may, after the wound is become very superficial, dress it with the yellow *basilicum*; and if fungous, or what is called *proud flesh*, should rise in the wound, it may be checked, by mixing with the ointment a little burnt alum, or red precipitate of mercury; or it may be kept down by a compress.

When a wound is greatly inflamed, the most proper application is a poultice of bread and milk, softened with a little sweet oil or fresh butter. This must be applied instead of a plaster, and should be changed twice a-day.

If the wound be large, and there is reason to fear an inflammation, the patient should be kept on a very low diet. He must abstain from animal food, strong liquors, and every thing that is of a heating nature. If he be of a full habit, and has lost but little blood from the wound, he must be bled; and, if the symptoms be urgent, the operation may be repeated. But when the patient has been greatly weakened by loss of blood from the wound, it will be dangerous to bleed him, even though a fever should ensue. Nature should never be too far exhausted. It is always more safe to allow her to struggle with the disease in her own way, than to sink the patient's strength by excessive evacuations.

Wounded persons ought to be kept perfectly quiet and easy. Every thing that ruffles the mind, or moves the passions, as love, anger, fear, excessive joy, &c. are very hurtful. They ought, above all things, to abstain from venery. The body should be kept gently open, either by laxative clysters, or by a cool vegetable diet, as roasted apples, stewed prunes, boiled spinage, and such like.

Burns.

In slight burns, which do not break the skin, it is customary to hold the part near the fire for a competent time, to rub it with salt, or to lay a compress upon it, dipped in spirits of wine or brandy. It is, however, a preferable practice to plunge immediately the burnt or scalded part into cold water, and keeping it for some time immersed. Strong brandy or alcohol is particularly praised. At first the pain is increased by this remedy, but an agreeable soothing sensation soon follows. The parts should be immersed in the spirit, and, when this cannot be done, soft old linen, soaked in the application, should be constantly kept on the part. A strong solution of alum and water is also useful. These applications are frequently made to prevent small blisters from arising, and should be continued as long as the pain remains; and in extensive burns, creating great irritation, opium should be prescribed, as the stupor with which patients so circumstanced are attacked, receives more relief from opium than any thing else. But when the burn has penetrated so deep as to blister or break the skin, it must be dressed with some of the liniments for burns mentioned in the Appendix, or with the emollient and gently-drying ointment, commonly called *Turner's cerate*.* This may be mixed with an equal quantity of fresh olive-oil, and spread upon a soft rag, and applied

* See Appendix, *Turner's Cerate.*

to the part affected. When this ointment cannot be had, an egg may be beat up with an equal quantity of the sweetest salad-oil. This will serve very well, till a proper ointment can be prepared. When the burning is very deep, after the first two or three days, it should be dressed with equal parts of yellow *basilicum* and *Turner's cerate*, mixed together.

When the burn is violent, or has occasioned a high degree of inflammation, and there is reason to fear a gangrene or mortification, the same means must be used to prevent, as are recommended in other violent inflammations. The patient, in this case, must live low, and drink freely of weak diluting liquors. He must likewise be bled and have his body kept open. But if the burnt parts should become livid or black, with other symptoms of mortification, it will be necessary to bathe them frequently with warm camphorated spirits of wine, tincture of myrrh, or other antiseptics, mixed with a decoction of the bark. In this case the bark must likewise be taken internally, and the patient's diet must be more generous, with wine, &c.

As example teaches better than precept, I shall relate the treatment of the most dreadful case of this kind that has occurred in my practice. A middle-aged man, of a good constitution, fell into a large vessel full of boiling water, and miserably scalded about one half of his body. As his clothes were on, the burning in some parts was very deep before they could be got off. For the first two days the scalded parts had been frequently anointed with a mixture of lime-water and oil, which is a very proper application for recent burnings. On the third day when I first saw him, his fever was high, and his body costive, for which he was bled, and had an emollient clyster administered. Poultices of bread and milk, softened with fresh butter, were likewise applied to the affected parts, to abate the heat and inflammation. His fever still continuing high, he was bled a second time, was kept strictly on the cooling regimen, took the saline mixture with small doses of nitre, and had an emollient clyster administered once a-day. When the inflammation began to abate, the parts were dressed with a digestive composed of brown cerate and yellow basilicum. Where any black spots appeared, they were slightly scarified, and touched with the tincture of myrrh; and to prevent their spreading, the Peruvian bark was administered. By this course, the man was so well in three weeks as to be able to attend his business.*

Equal parts of linseed-oil and lime-water form an excellent cooling emollient application to burns produced by gunpowder, or those that are less destroyed. In some cases Goulard's cerate, and a weak solution of the superacetate of lead, more quickly procure ease.

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* This practice answers very well in scalds; but in severe burns, such as are occasioned by the explosion of gunpowder, or of inflammable air in coal mines, the method recommended by Mr. Kentish, of applying to the burned part spirit of turpentine, by means of a feather, till the suppuration is fairly established, and afterwards covering the surface with pure chalk, finely powdered, is preferable practice. The patient's strength must be supported by cordial medicines, and a generous diet. In slight burns and scalds, immersing the part in iced water, or wrapping it in cloths kept constantly moist with spirit of wine or æther, which by its evaporation occasions cold, relieves pain, and prevents vesication. A. P. B.

Mr. Cleghorn's Plan of treating Burns and Scalds.

Mr. Cleghorn, a brewer in Edinburgh, was inclined to pay great attention to the effects of various modes of treating burns, on account of the frequency of these accidents among his own workmen. His observations led him to prefer the immediate application of vinegar, which was to be continued for some hours, by any of the most convenient means, until the pain abated, and when this returned the vinegar was renewed. If the burn had been so severe as to have produced a destruction of parts, these, as soon as the pain had ceased, were covered with a poultice, the application of which was continued about six, or, at most, eight hours, and after its removal the parts were entirely covered with finely powdered chalk, so as to take away every appearance of moisture on the surface of the sore. This being done, the whole burnt surface was again covered with poultice. The same mode was pursued every night and morning until the cure was complete. If the use of poultices relaxed the ulcers too much, a plaster or ointment, containing subcarbonate of lead, was applied; but the chalk was still sprinkled on the sore.

Diluted sulphuric acid was found to answer as well as vinegar. In cold weather Mr. Cleghorn sometimes warmed the vinegar a little, placed the patients near the fire, gave them something warm internally, and kept them in every respect in a comfortable situation. His object in so doing was to prevent the occurrence of tremblings and chillness, which, in two instances, after the employment of cold vinegar, took place in an alarming degree.

Sir James Earle's Plan.

This gentleman was an advocate for the use of cold water, or rather ice; and published several cases of extensive burns, in which this method was employed with the best success. The burnt parts may either be plunged in cold water, or they may be covered with linen dipped in the same, and renewed as often as it acquires warmth from the part. The application should be continued as long as the heat and pain remain, which they will often do for a great many hours.

Some caution, however, becomes necessary, in the application of cold, when the scald is of very large size, or situated upon the trunk of the body. In extensive burns, superficial as they may be, the patient is liable to be affected with cold shiverings; and these shiverings may be greatly aggravated by exposure, and by the application of cold. Perhaps, therefore, in these examples warm applications ought to be preferred.

The sores resulting from burns are perhaps more disposed than any other ulcer, to form large granulations, which rise considerably above the level of the surrounding skin. At this stage no poultices should be used. The sores should be dressed with Turner's cerate, or basilicum mixed with a little red precipitate, and if the part will allow of the application of a roller, the pressure will be of great service in keeping down the granulations, (commonly called proud flesh,) and rendering them more healthy.

Bruises.

Bruises are generally productive of worse consequences than wounds. The danger from them does not appear immediately, by which means it often happens that they are neglected. It is needless to give any definition of a disease so universally known; we shall therefore proceed to point out the method of treating it.

In slight bruises it will be sufficient to bathe the part with warm vinegar, to which a little brandy or rum may occasionally be added, and to keep cloths wet with this mixture constantly applied to it. This is more proper than rubbing it with brandy, spirits of wine, or other ardent spirits, which are commonly used in such cases.

In some parts of the country the peasants apply to a recent bruise a cataplasm of fresh cow-dung. I have often seen this cataplasm applied to violent contusions, occasioned by blows, falls, bruises, and such like, and never knew it fail to have a good effect.

When a bruise is very violent, the patient ought immediately to be bled, and put upon a proper regimen; a sufficient number of leeches ought likewise to be applied to the part. His food should be light and cool, and his drink weak, and of an opening nature; as whey sweetened with honey, decoctions of tamarinds, barley, cream-tartar-whey, and such like. The bruised part must be bathed with vinegar and water, as directed above; and a poultice made by boiling crumb of bread, elder-flowers, and camomile-flowers, in equal quantities of vinegar and water, applied to it. This poultice is peculiarly proper when a wound is joined to the bruise. It may be renewed two or three times a-day.

As the structure of the vessels is totally destroyed by a violent bruise, there often ensues a great loss of substance, which produces an ulcerous sore very difficult to cure. If the bone be affected, the sore will not heal before an exfoliation takes place; that is, before the diseased part of the bone separates, and comes out through the wound. This is often a very slow operation, and may even require several years to be completed. Hence it happens, that these sores are frequently mistaken for the king's evil, and treated as such, though in fact they proceed solely from the injury which the solid parts received from the blow.

Patients in this situation are pestered with different advices. Every one who sees them proposes a new remedy, till the sore is so much irritated with various and opposite applications, that it is often at length rendered absolutely incurable. The best method of managing such sores is, to take care that the patient's constitution does not suffer by confinement or improper medicine, and to apply nothing to them besides simple ointment spread upon soft lint, over which a poultice of bread and milk, with boiled camomile flowers, or the like, may be put, to nourish the part, and keep it soft and warm. Nature, thus assisted, will generally in time operate a cure, by throwing off the diseased parts of the bone, after which the sore soon heals.

Ulcers.

Ulcers are divided into local or constitutional; it is only, however, within certain limits that this distinction is well founded; for

an ulcer which is at first completely local, may in time affect the system so as to become constitutional; and ulcers which derive their origin from some general affection of the system, may remain after the removal of the constitutional disorder, by which they were originally produced.

Ulcers may be the consequence of wounds, bruises, or impost-humes properly treated; they may likewise proceed from an ill state of the humours, or what may be called a bad habit of body.

In the latter case they ought not to be hastily dried up, other wise it may prove fatal to the patient. Ulcers happen most commonly in the decline of life; and persons who neglect exercise, and live grossly, are most liable to them. They might often be prevented by retrenching some part of the solid food, or by opening artificial drains, as issues, setons, or the like.

An ulcer may be distinguished from a wound by its discharging a thin watery humour, which is often so acrid as to inflame and corrode the skin; by the hardness and perpendicular situation of its sides or edges; by the time of its duration, &c.

It requires considerable skill to be able to judge whether or not an ulcer ought to be dried up. In general, all ulcers which proceed from a bad habit of body, should be suffered to continue open, at least till the constitution has been so far changed by proper regimen, or the use of medicine, that they seem disposed to heal of their own accord. Ulcers which are the effect of malignant fevers or other acute diseases, may generally be healed with safety after the health has been restored for some time. The cure ought not, however, to be attempted too soon, nor at any time without the use of purging medicines and a proper regimen. When wounds or bruises have, by wrong treatment, degenerated into ulcers, if the constitution be good, they may generally be used with safety. When ulcers either accompany chronical diseases, or come in their stead, they must be cautiously healed. If an ulcer conduces to the patient's health, from whatever cause it proceeds, it ought not to be healed; but if, on the contrary, it wastes the strength, and consumes the patient by a slow fever, it should be healed as soon as possible.

We would earnestly recommend a strict attention to these particulars to all who have the misfortune to labour under this disorder, particularly persons in the decline of life; as we have frequently known people throw away their lives by the want of it, while they were extolling and generously rewarding those whom they ought to have looked upon as their executioners.

Cure of Ulcers by Roller and Compresses, &c. on Mr. Whately's Plan.

Bandages are of the most essential service in healing many kinds of ulcers; but their efficacy is so great in curing numerous indolent sores, that they are sometimes considered the principal means of cure. Mr. Whately, who is one of the most zealous modern advocates for this mode of treating ulcers, offers the following remarks for the application of the roller and compresses.

"The best width for a flannel roller, designed for those who

have slender legs, is three inches; but for those whose legs are of a larger size, they should always be three inches and a half in width. They must therefore, at first, be torn a little wider, that they may be of their proper width when repeatedly washed. It will likewise be found, that rollers made of fine, soft, and open flannel will answer much better than those made of coarse or hard flannel. The rollers should be often washed, as they become much softer, and of course sit easier when quite clean than when soiled.

"In applying a roller (says this gentleman) the first circle should be made *round* the *lowest* part of the ancle, as near as possible to the heel; the second should be formed from thence round the foot; the third, to be passed again round the foot quite to the toes. The roller should then be passed from the foot round the ancle and instep a second time, to make the fourth circle. In doing this it should be brought nearer (but not over) the point of the heel than it was at the *first time* of going round the part. The fifth circle should pass over the ancle again, and not more than half an inch higher up the leg than the fourth circle. The sixth, seventh, eighth, and ninth circles should ascend spirally along the small of the leg, at the *exact distance* of three-fourths of an inch from each other. Having proceeded thus far up the leg, we may begin to increase the distance of the circles from each other, which may now succeed each other upward to the knee, at the distance of from one to two inches, according to the size and shape of the leg. At that part where the calf of the leg commences it is generally necessary to let the upper edge of the roller be once, twice, or thrice turned downwards, for about half the circumference of the leg, in order to make the roller lay smooth between the middle of the calf and the small of the leg. When the roller has been thus applied as far as the knee there will be a portion of it to spare, of perhaps a yard in length; this remainder should be brought down by spiral windings, at greater distances from each other than those which were made in the ascent of the roller. The windings should in general be completed in the small of the leg, where the roller should be pinned.

"In applying the compresses, it is necessary in every instance, to put them on one by one, and not all in a mass, though they be of a proper size and number. They should be crossed in different directions; the largest of them should in no case be longer than just to meet on the opposite side of the leg to which they are applied. If the same compresses in any case be applied two days together, they should always be turned on the contrary side at each re-application, in order to prevent wrinkles on the skin."

As Mr. Whately objects to pressure being made with adhesive plaster, the following is the calamine cerate he has usually employed.

Take Prepared Hog's Lard, 3 lb.
Lead Plaster, 1½ lb.
Prepared Calamine, 1 lb.

To this formula Mr. Whately adds another for making a cerate, which nearly resembles the unguentum tripharmicum of the old dispensatory; but being less oily, it makes a much more adhesive

plaster. It should be spread on rag or silk, as an external covering to the dressing on lint, where a tow-plaster cannot be conveniently used; as in wounds of the face or hands, a bubo, or any other sore, where an external plaster cannot readily be retained in its situation by a bandage. This plaster is likewise so mild that it never irritates the skin. It has also been found very useful in fractures. The following is the formula:

Take Lead Plaster,	1 lb.
Hog's Lard, Prepared,	6 ounces.
Vinegar,	4 ounces.

Mix.

Mr. Baynton's Plan of curing old Ulcers of the Leg by Means of Adhesive Plaster, without Rest.

Mr. Baynton says that the means proposed by him will be found, in most instances, sufficient to accomplish cures in the worst cases, without pain or confinement. After having been repeatedly disappointed in the cure of old ulcers, Mr. Baynton determined on *bringing their edges nearer together by means of slips of adhesive plaster.* To this he was chiefly led, from having frequently observed, that the probability of an ulcer continuing sound depended much on the size of the cicatrix which remained after the cure appeared to be accomplished; and from knowing well, that the true skin was a much more substantial support and defence, as well as a better covering, than the frail one, which is obtained by the assistance of art. But, when he had recourse to the adhesive plaster with a view to lessen the probability of those ulcers breaking out again, he little expected, that an application so simple would prove the easiest, most efficacious, and most agreeable means of treating ulcers. His method is as follows:

"The parts should be first cleared of the hair, sometimes found in considerable quantities on the legs, by means of a razor, that none of the discharges, by being retained, may become acrid and inflame the skin, and that the dressings may be removed with ease at each time of their renewal, which, in some cases, where the discharges are profuse, and the ulcers very irritable, may, perhaps, be necessary twice in the twenty-four hours, but which I have in every instance been only under the necessity of performing once in that space of time.

"The plaster should be prepared by slowly melting, in an iron ladle, a sufficient quantity of litharge plaster, or diachylon, which, if too brittle when cold to adhere, may be rendered adhesive by melting half a drachm of resin with every ounce of the plaster: when melted it should be stirred till it begins to cool, and then spread thinly upon slips of smooth porous calico, of a convenient length and breadth, by sweeping it quickly from the end held by the left hand of the person who spreads it, to the other, held firmly by another person, with the common elastic spatula used by apothecaries: the uneven edges must be taken off, the pieces cut into slips, about two inches in breadth, and of a length that will, after being passed round the limb, leave an end of about four or five inches. The middle of the piece so prepared is to be applied to the sound part of the limb, opposite to the inferior part of the ulcer,

so that the lower edge of the plaster may be placed about an inch below the the lower edge of the sore, and the ends drawn over the ulcer with as much gradual extension as the patient can well bear; other slips are to be secured in the same way, each above and in contact with the other, until the whole surface of the sore and the limb are completely covered, at least one inch below, and two or three above the diseased part. The whole of the leg should then be equally defended with pieces of soft calico, three or four times doubled, and a bandage of the same, about three inches in breadth, and four or five yards in length, or rather as much as will be sufficient to support the limb from the toes to the knee, should be applied as smoothly as can possibly be performed, and with as much firmness as can be borne by the patient, being first passed round the leg at the ancle-joint, then as many times round the foot as will cover and support every part of it, except the toes, and afterwards up the limb till it reaches the knee, observing that each turn of the bandage should have its lower edge so placed as to be about an inch above the lower edge of the fold next below. If the parts be much inflamed, or the discharge very profuse, they should be well moistened, and kept cool with cold spring water, poured upon them as often as the heat may indicate to be necessary, or, perhaps, at least, every hour. The patient may take what exercise he pleases, and it will always be found, that an alleviation of his pain and the promotion of his cure will follow as its consequence, though, under other modes of treating the disease, it aggravates the pain, and prevents the cure.

"These means, when circumstances render it convenient, should be applied soon after rising in the morning, as the legs of persons affected with this disease are then found most free from tumefaction, and the advantages will be greater than when they are applied to limbs in a swollen state. The first applications will sometimes occasion pain, which, however, subsides in a short time, and is less sensibly felt at each succeeding dressing. The force with which the ends are drawn over the limb must then be gradually increased, and when the parts are restored to their natural state of ease and sensibility, which will soon happen, as much may be applied as the calico will bear, or the surgeon can exert; especially if the limb be in that enlarged and compressible state, which has been denominated the scorbutic, or if the edges of the wound be widely separated from each other."

"Cures," adds Mr. B., "will be generally obtained without difficulty by the mere application of the slips and bandage; but, when the parts are much inflamed, and the secretions great, or the season hot, the frequent application of cold water will be found a valuable auxiliary, and may be always safely had recourse to, where the heat of the part is greater than is natural, and the body free from perspiration.

The most proper regimen for promoting the cure of ulcers is to avoid all spices, salted and high-seasoned food, all strong liquors, and to lessen the usual quantity of flesh meat. The body ought to be kept gently open by a diet consisting chiefly of cooling laxative vegetables, and by drinking butter-milk, whey sweetened with honey, or the like. The patient ought to be kept cheerful, and should take as much exercise as he can easily bear.

When the bottom and sides of an ulcer seem hard and callous, they may be sprinkled twice a-day with a little red precipitate of mercury, and afterwards dressed with the ointment of yellow *basilicon*, or cerate of resin. Sometimes it will be necessary to have the edges of the ulcer scarified with the lancet.

Limewater has frequently been known to have very happy effects in the cure of obstinate ulcers. It may be used in the same manner as directed for the stone and gravel. For indolent ulcers, Sir Everard Home recommends the application of diluted nitrous acid, in the proportion of a scruple to eight ounces of water. It promotes, in an uncommon manner, the progress of the cure; and, although painful at first, this sensation soon ceases, and produces the best effects.

My late learned and ingenious friend Dr. White strongly recommends the use of the solution of corrosive sublimate of mercury in brandy, for the cure of obstinate ill-conditioned ulcers. I have frequently found this medicine, when given according to the Doctor's directions, prove very successful. The dose is a table-spoonful night and morning; at the same time washing the sore twice or thrice a-day with it. In a letter which I had from the Doctor a little before his death, he informed me, "that he observed washing the sore thrice a-day with the solution of a triple strength was very beneficial."*

The carrot poultice is found to agree with a great many irritable sores; and the decoction of poppy-heads is also found to be a good liquor for making poultices. The great objection to poultices in these cases being their weight, the limb should always, if possible, rest upon the poultice, and not the poultice, upon the limb. When the weight cannot be avoided and is hurtful, a lighter application should be chosen. When poultices are employed, their use should be continued as long as the granulations are small, and the ulcer rapidly diminishing in size; and this, even until the cicatrization be complete. When the granulations become large and loose in their texture, poultices should be left off, when a slight or necessary degree of pressure may be adopted.

Of the Fistula in Ano.

Ulcers in the neighbourhood of the anus are peculiarly liable to become fistulous, and when in that state are very difficult to cure. A fistula, is frequently the consequence of neglected or ill-treated piles. The presence of this complaint is discovered by the sensation of a pricking pain on going to stool, which is also perceived during the exertion of coughing or sneezing. On examination, a stain of a pale colour, occasionally accompanied with a little blood, will be found upon the linen; the fæces are also slightly streaked with matter. This matter issues from a small ulcer with one or more orifices, in the neighbourhood of the anus, the other extremity of which generally communicates with the internal cavity of the rectum.

* In ulcers of the lower limbs great benefit is often received from wearing a laced stocking, as this prevents the flux of humours to the sores, and disposes them to heal.

When this disease is ascertained to be present, costiveness should be guarded against chiefly by means of diet, which ought to be cooling, and consist of ripe figs, roasted apples, and articles of a similar nature. Oatmeal porridge eaten with milk or beer, for breakfast or supper, rarely fails to keep the body regular. The radical cure of this complaint must depend on the proper application of topical remedies. Much may be done by strict attention to personal cleanliness. The parts should be carefully washed with a sponge and water several times a-day, and regularly after going to stool. Stimulant injections, as for example a solution of corrosive sublimate, or of common culinary salt, tincture of cantharides, or port wine thrown into the fistula by means of a small syringe, or elastic gum-bottle, furnished with a conical point, have, when duly persisted in, effected a cure. Or, the orifice of the fistula may be kept open, and a free passage given to the contained matter, by means of a tent or bougie shaped like a cone, and the ulcer be thus disposed to heal. This disease has also been attempted to be cured by introducing a bougie, or flexible leaden probe into the fistula, passing it through the orifice that communicates with the rectum, and bringing it out at the anus, then twisting the two opposite extremities together, and occasionally tightening them, till they destroy the interposed substance, when the fistula, being reduced to the state of a simple ulcer, heals.

Drinking any sulphureous mineral water, such as that of Harrowgate, improves the constitution in general, and by that means tends to promote the healing of the ulcer. In cold, languid, and what are termed phlegmatic habits, tar-water may be taken with considerable advantage. I knew an instance of a fistulous sore, seated near the rectum, being almost healed up by taking regularly half a pint of sea-water morning and evening for six weeks together, and believe it might have been completely cured, had the person persisted in this course for a sufficient length of time. It is certainly worth while to give any of these remedies a fair trial previous to having recourse to the operation, as even that does not always succeed.

Ulcerations about the rectum are frequently symptomatic of affections of the liver. When that is known to be the case, or when they occur about the decline of life, or in persons who have resided long in warm climates, we should not be too busy with our efforts to heal them up. In such persons they seem frequently to operate as salutary drains to the constitution, and to prevent the access of other diseases. Many examples have occurred of persons somewhat advanced in life being attacked by asthma, spitting of blood, paralysis, and even insanity, within a short period of time after undergoing the operation for the radical cure of a fistula; while others, of apparently similar constitutions, who have submitted to the inconveniency of a discharge, and been attentive to keep the parts clean and warm, have lived to an advanced period of life. Individuals past the meridian of life, who determine to undergo the operation for fistula, should never omit to have an issue opened in some other part of the body, which may serve as a succedaneum for the natural drain they are about to obliterate.
A. P. B.

*** The medical treatment of fistulæ in ano will depend on their cause. If they arise from costiveness, the remedies are obvious; if from disease of the liver, calomel and saline purges; if from disease of the chest, as dropsy, it is difficult to say what medicine ought to be recommended. It is of great importance, however, to give such medicines as will bring the fistula into a healthy state. With this view the balsam of copaiba may be given with advantage. If there be much irritation, give soda, which has great efficacy in diminishing the irritability of the rectum. Aromatic medicines should be given, especially that which used to go by the name of Wards's Paste, having been found by experience to produce excellent effects in this disease:

Take of Pepper 2 drachms,
Ellecampane and
Fennel seeds, of each half an ounce.

These are to be mixed up with honey, in the form of an electuary; of which a tea-spoonful is to be taken two or three times a-day. This soon brings the fistula into a healing state; healthy granulations shoot up from the surface, and the discharge instead of being serous or bloody, consists of good pus. Calomel and saline purges should be occasionally given during the use of these aromatic medicines, with a view of promoting the secretions of the liver and intestines. Ed.

CHAP. II.

OF DISLOCATIONS.

When a bone is moved out of its place or articulation, so as to impede its proper functions, it is said to be *luxated* or *dislocated*. As this often happens to persons in situations where no medical assistance can be obtained, by which means limbs, and even lives are frequently lost, we shall endeavour to point out the method of reducing the most common luxations, and those which require immediate assistance. Any person of common sense and resolution, who is present when a dislocation happens, may often be of more service to the patient than the most expert surgeon can after the swelling and inflammation have come on. When these are present, it is difficult to know the state of the joint, and dangerous to attempt a reduction; and by waiting till they are gone off, the muscles become so relaxed, and the cavity filled up, that the bone can never afterwards be retained in its place.

A recent dislocation may generally be reduced by extension alone, which must always be greater or less according to the strength of the muscles which move the joint, the age, robustness, and other circumstances of the patient. When the bone has been out of its place for any considerable time, and a swelling or inflammation has come on, it will be necessary to bleed the patient, and, after fomenting the part, to apply soft poultices with vinegar to it for some time before the reduction is attempted,

All that is necessary after the reduction, is to apply cloths dipt in vinegar or camphorated spirits of wine to the part, and to keep it perfectly easy. Many bad consequences proceed from the neglect of this rule. A dislocation seldom happens without the tendons and ligaments of the joint being stretched, and sometimes torn. When these are kept easy till they recover their strength and tone, all goes on very well; but if the injury be increased by too frequent an exertion of the parts, no wonder if they be found weak and diseased ever after.

Dislocation of the Jaw.

The lower jaw may be luxated by yawning, blows, falls, chewing hard substances, or the like. It is easily known from the patient's being unable to shut his mouth or to eat any thing, as the teeth of the under jaw do not correspond with those of the upper; besides, the chin either hangs down or is thrown towards one side, and the patient is neither able to speak distinctly, nor to swallow without considerable difficulty.

The usual method of reducing a dislocated jaw, is to set the patient upon a low stool, so as an assistant may hold the head firm by pressing it against his breast. The operator is then to thrust his two thumbs, being first wrapt up with linen cloths that they may not slip, as far back into the patient's mouth as he can, while his fingers are applied to the jaw externally. After he has got firm hold of the jaw, he is to press it strongly downwards and backwards, by which means the elapsed heads of the jaw may be easily pushed into their former cavities.

The peasants in some parts of the country have a peculiar way of performing this operation. One of them puts a handkerchief under the patient's chin, then turning his back to that of the patient, pulls him up by the chin, so as to suspend him from the ground. This method often succeeds, but we think it a dangerous one, therefore recommend the former.

Dislocation of the Neck.

The neck may be dislocated by falls, violent blows, or the like.* In this case, if the patient receives no assistance, he soon dies, which makes people imagine the neck was broken; it is, however, for the most part, only partially dislocated, and may be reduced by almost any person who has resolution enough to attempt it. A complete dislocation of the neck is instantaneous death.

When the neck is dislocated, the patient is immediately deprived of all sense and motion; his neck swells, his countenance appears

* The os occipitis, and first cervical vertebra, are so firmly connected by ligaments, that there is no instance of their being luxated from an external cause, and were the accident to happen, it would immediately prove fatal by the unavoidable compression and injury of the spinal marrow; and in dislocations of the first cervical vertebra from the second, patients can hardly be expected to survive a mischief of this kind in so high a situation; when the transverse ligament is broken, and the *dentated process* is thrown directly backward against the medulla oblongata, the effect must be instant death, as happened in a case lately related by Mr. C. Bell. All dislocations of the neck in which the processus dentatus is displaced are immediately fatal, although luxations of the oblique cervical processes lower down may be reduced. Ed.

bloated, his chin lies upon his breast, and his face is generally turned towards one side.

To reduce this dislocation, the unhappy person should immediately be laid upon his back on the ground, and the operator must place himself behind him, so as to be able to lay hold of his head with both hands, while he makes a resistance by placing his knees against the patient's shoulder. In this posture he must pull the head with considerable force, gently twisting it at the same time, if the face be turned to one side, till he perceives that the joint is replaced, which may be known from the noise which the bones generally make when going in, the patient's beginning to breathe, and the head continuing in its natural posture.

This is one of those operations which it is more easy to perform than describe. I have known instances of its being happily performed even by women, and often by men of no medical education. After the neck is reduced, the patient ought to be bled, and should be suffered to rest for some days, till the parts recover their proper tone.

Dislocation of the Ribs.

As the articulation of the ribs with the back-bone is very strong, they are not often dislocated. It does, however, sometimes happen, which is a sufficient reason for our taking notice of it. When a rib is dislocated, either upwards or downwards, in order to replace it, the patient should be laid upon his belly on a table, and the operator must endeavour to push the head of the bone into its proper place. Should this method not succeed, the arm of the disordered side may be suspended over a gate or ladder, and while the ribs are thus stretched asunder, the heads of such as are out of place may be thrust into their former situation.

Those dislocations wherein the heads of the ribs are forced inwards, are both more dangerous and the most difficult to reduce, as neither the hand nor any instrument can be applied internally to direct the luxated heads of the ribs. Almost the only thing that can be done is, to lay the patient upon his belly over a cask, or some gibbous body, and to move the fore-part of the rib inward towards the back, sometimes shaking it; by this means the heads of the luxated ribs may slip into their former place.

In a modern work* may be read the particulars of a case, where all the ribs are said to have been dislocated from the cartilages. The accident arose from the chest being violently compressed between the beam of a mill and the wall. In such a case, there is no means of reduction, except the effect produced by forcible inspiration; nor are there any modes of relief but bleeding, and the application of a roller round the chest.

Dislocation of the Shoulder.

The humerus or upper-bone of the arm may be dislocated in various directions: it happens, however, most frequently downwards, but very seldom directly upwards. From the nature of its

* C. Bell's Surg. Observations, p. 171.

articulation, as well as from its exposure to external injuries, this bone is the most subject to dislocation of any in the body. A dislocation of the humerus may be known by a depression or cavity on the top of the shoulder, and an inability to move the arm. When the dislocation is downward or forward, the arm is elongated, and a ball or lump is perceived under the arm-pit; but when it is backward, there appears a protuberance behind the shoulder, and the arm is thrown forwards towards the breast.

The usual method of reducing dislocations of the shoulder is to seat the patient upon a low stool, and to cause an assistant to hold his body so that it may not give way to the extension, while another lays hold of the arm a little above the elbow, and gradually extends it. The operator then puts a napkin under the patient's arm, and causes it to be tied behind his own neck: by this, while a sufficient extension is made, he lifts up the head of the bone, and and with his hands directs it into its proper place. There are various machines invented for facilitating this operation, but the hand of an expert surgeon is always more safe. In young and delicate patients, I have generally found it a very easy matter to reduce the shoulder, by extending the arm with one hand, and thrusting in the head of the bone with the other. In making the extension, the arm ought always to be a little bent.

Dislocation of the Elbow.

The bones of the fore-arm may be dislocated in any direction. When this is the case, a protuberance may be observed on that side of the arm towards which the bone is pushed, from which, and the patient's inability to bend his arm, a dislocation of this joint may easily be known.

Two assistants are generally necessary for reducing a dislocation of the elbow; one of them must lay hold of the arm above, and the other below the joint, and make a pretty strong extension. while the operator returns the bones into their proper place. Afterwards the arm must be bent, and suspended for some time with a sling about the neck.

Luxations of the wrist and fingers are to be reduced in the same manner as those of the elbow, viz. by making an extension in different directions, and thrusting the head of the bone into its place.

Dislocation of the Clavicle or Collar-bone.

The clavicle may be luxated at its sternal extremity,* forwards, backwards, and upwards, but never downwards, on account of the situation of the cartilage of the first rib. The luxation forward is most frequent, and almost the only one ever met with.

In reducing these dislocations of the sternal end of the clavicle, a lever is to be made of the arm, by means of which the shoulder is to be brought outwards; and when thus brought outwards, it is to be pushed forwards, if the dislocation be in that direction; backward, if the dislocation be behind; and upward, if it be above.

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* The end nearest the breast-bone.

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upon his face, and during the extension the head of the bone must be pushed inward.

Dislocations of the *knees*, *ancles*, and *toes*, are reduced much in the same manner as those of the upper extremities, viz. by making an extension in opposite directions, while the operator replaces the bones. In many cases, however, the extension alone is sufficient, and the bone will slip into its place merely by pulling the limb with sufficient force. It is not hereby meant, that force alone is sufficient for the reduction of dislocation. Skill and address will often succeed better than force. I have known a dislocation of the thigh reduced by one man, after all the force that could be used by six had proved ineffectual.

When the force of the muscles in very robust persons resists every effort to reduce a dislocated limb, a grain or two of emetic tartar dissolved in water may be administered, and taking advantage of the general languor and debility that precedes the act of vomiting, the limb may be reduced with facility. I have known this plan successfully practised; to which may be added bleeding and the warm bath.

CHAP. III.

OF BROKEN BONES, &c.

There is, in most country-villages, some person who pretends to the art of reducing fractures. Though in general such persons are very ignorant, yet some of them are very successful; which evidently proves, that a small degree of learning, with a sufficient share of common sense and a mechanical head, will enable a man to be useful in this way. We would, however, advise people never to employ such operators, when an expert and skilful surgeon can be had; but when that is impracticable, they must be employed: we shall therefore recommend the following hints to their consideration:—

When a large bone is broken, the patient's diet ought in all respects to be the same as in an inflammatory fever. He should likewise be kept quiet and cool, and his body open by emollient clysters; or, if these cannot be conveniently administered, by food that is of an opening quality; as stewed prunes, apples boiled in milk, boiled spinage, and the like. It ought, however, to be here remarked, that persons who have been accustomed to live high are not all of a sudden to be reduced to a very low diet. This might have fatal effects. There is often a necessity for indulging even bad habits in some measure, where the nature of the disease might require a different treatment.

It will generally be necessary to bleed the patient immediately after a fracture, especially if he be young, of a full habit, or has at the same time received any bruise or contusion. This operation should not only be performed soon after the accident happens, but, if the patient be very feverish, it may be repeated next day. When several of the ribs are broken, bleeding is peculiarly necessary.

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When a fracture is accompanied with a wound, it must be dressed in all respects as a wound.

All that art can do towards the cure of a broken bone is to lay it perfectly straight, and to keep it quite easy. All tight bandages do hurt. They had much better be omitted altogether. A great many of the bad consequences which succeed to fractured bones are owing to tight bandages. This is one of the ways in which the excess of art, or rather the abuse of it, does more mischief than would be occasioned by the want of it. Some of the most sudden cures of broken bones which were ever known happened where no bandages were applied at all. Some method, however, must be taken to keep the member steady; but this may be done many ways, without bracing it with a tight bandage.

The best method of retention is by two or more splints made of leather or pasteboard. These, if moistened before they are applied, soon assume the shape of the included member, and are sufficient, by the assistance of a very slight bandage, for all the purposes of retention. The bandage which we would recommend is that made with twelve or eighteen tails. It is much easier applied and taken off than rollers, and answers all the purposes of retention equally well. The splints should always be as long as the limb, with holes cut for the ancles when the fracture is in the leg.

In fractures of the ribs, where a bandage cannot be properly used, an adhesive plaster may be applied over the part. The patient in this case ought to be bled, to keep himself quite easy, avoiding every thing that may occasion sneezing, laughing, coughing, or the like. He ought to keep his body in a straight posture, and should take care that his stomach be constantly distended, by taking frequently some light food, and drinking freely of weak watery liquors.

When the ribs are fractured on both sides bandages are not admissible, as the patient would be in extreme danger of being suffocated, from impeded action of the chest.

The most proper external application for a fracture is *oxycrate*, or a mixture of vinegar and water, to which some spirits of wine may be added. The bandages should be wet with this at every dressing, if the inflammation runs high.

CHAP. IV.

OF STRAINS.

Strains are often attended with worse consequences than broken bones. The reason is obvious: they are generally neglected. When a bone is broken, the patient is obliged to keep the member easy, because he cannot make use of it; but when a joint is only strained, the person finding he can still make a shift to move it, is sorry to lose his time for so trifling an ailment. In this way he deceives himself, and converts into an incurable malady what might have been removed by only keeping the part easy for a few days.

Country-people generally immerse a strained limb in cold water.

This is very proper, provided it be done immediately, and not kept in too long. But the custom of keeping the part immersed in cold water for a long time is certainly dangerous. It relaxes instead of bracing the part, and is more likely to produce a disease than remove one.

Wrapping a garter, or some other bandage, pretty tight about the strained part, is likewise of use. It helps to restore the proper tone of the vessels, and prevents the action of the parts from increasing the disease. It should not, however, be applied too tight. I have frequently known bleeding near the affected part have a very good effect; but what we would recommend above all, is *ease*. It is more to be depended on than any medicine, and seldom fails to remove the complaint.*

Ruptures.

Children and old people are most liable to this disease. In the former it is generally occasioned by excessive crying, coughing, vomiting, or the like. In the latter, it is commonly the effect of blows or violent exertions of the strength, as leaping, carrying great weights, &c. In both, a relaxed habit, indolence, and an oily or very moist diet, dispose the body to this disease.

A rupture sometimes proves fatal before it is discovered. Whenever sickness, vomiting, and obstinate costiveness give reason to suspect an obstruction of the bowels, all those places where ruptures usually happen ought carefully to be examined. The protrusion of a very small part of the gut will occasion all these symptoms; and, if not returned in due time, will prove fatal. On the first appearance of a rupture in an infant, it ought to be laid upon its back with its head very low. While in this posture, if the gut does not return of itself it may easily be put up by gentle pressure. After it is returned, a piece of sticking-plaster may be applied over the part, and a proper truss or bandage must be constantly worn for a considerable time. The method of making and applying rupture-bandages for children is pretty well known. The child must, as far as possible, be kept from crying, and from all violent exertions, till the rupture is quite cured.

In adults, when the gut has been forced down with great violence, or happens from any cause to be inflamed, there is often great difficulty in returning it, and sometimes the thing is quite impracticable without an operation; a description of which is foreign to our purpose. As I have been fortunate enough, however, always to succeed in my attempts to return the gut, without having recourse to any other means than what are in the power of every man, I shall briefly mention the method which I generally pursue.

After the patient has been bled, he must be laid upon his back, with his head very low, and his breech raised high with pillows.

* A great many external applications are recommended for strains, some of which do good, and others hurt. The following are such as may be used with the greatest safety, viz. poultices made of stale beer or vinegar and oatmeal, camphorated spirits of wine, Mindererus's spirit, volatile liniment, volatile aromatic spirit diluted with a double quantity of water, and the common fomentation, with the addition of brandy or spirit of wine.

In this situation flannel-cloths wrung out of a decoction of mallows and camomile-flowers, or, if these are not at hand, warm water, must be applied for a considerable time. A clyster made of this decoction, with a large spoonful of butter, and an ounce or two of salt, may be afterwards thrown up. If these should not prove successful, recourse must be had to pressure. If the tumour be very hard, considerable force will be necessary; but it is not force alone which succeeds here. The operator, at the same time that he makes a pressure with the palms of his hands, must with his fingers artfully conduct the gut in by the same aperture through which it came out. The manner of doing this can be much easier conceived than described. Should these endeavours prove ineffectual, clysters of the smoke of tobacco may be tried. These have been often known to succeed where every other method failed.

There is reason to believe that, by persisting in the use of these, and such other means as the circumstances of the case may suggest, most *hernias* might be reduced without an operation. Operating for the *hernia* is a nice and difficult matter. I would therefore advise surgeons to try every method of returning the gut before they have recourse to the knife. I have once and again succeeded by persevering in my endeavours, after eminent surgeons had declared the reduction of the gut impracticable without an operation.*

An adult, after the gut has been returned, must wear a proper truss. It is needless to describe this, as it may always be had ready-made from the artists. Such bandages are generally uneasy to the wearer for some time, but by custom they become quite easy. No person who has had a rupture after he arrived at man's estate should ever be without one of these bandages.

Persons who have a rupture ought carefully to avoid all violent exercise, carrying great weights, leaping, running, and the like. They should likewise avoid windy aliment and strong liquors; and should carefully guard against catching cold.

CHAP. V.

CASUALTIES.

It is certain that life, when to all appearance lost, may often, by due care, be restored. Accidents frequently prove fatal, merely because proper means are not used to counteract their effects. No person ought to be looked upon as dead from any accident, unless where the structure of the heart, brain, or some organ necessary to life, is evidently destroyed. The functions of these organs may be so far impaired, as even to be for some time imperceptible, when life is by no means extinct. In this case, however, if the fluids be suffered to grow cold, it will be impossible to put them again in motion, even though the solids should recover their power

* I would here beg leave to recommend it to every practitioner, when his patient complains of pain in the belly with obstinate costiveness, to examine the groins, and every place where a rupture may happen, in order that it may be immediately reduced. By neglecting this, many perish who were not suspected to have had ruptures till after they were dead. I have known this happen where half a dozen of the faculty where in attendance.

of acting. Thus, when the motion of the lungs has been stopped by unwholesome vapour; the action of the heart by a stroke on the breast; or the functions of the brain by a blow on the head, if the person be suffered to grow cold, he will in all probability continue so; but, if the body be kept warm, as soon as the injured part has recovered its power of acting, the fluids will again begin to move, and all the vital functions will be restored.

It is a horrid custom immediately to consign over to death every person who has the misfortune, by a fall, a blow, or the like, to be deprived of the appearance of life. The unhappy person, instead of being carried into a warm house, and laid by the fire, or put to a warm bed, is generally hurried away to a church or a barn, or some other cold damp house, where, after a fruitless attempt has been made to bleed him, perhaps by one who knew nothing of the matter, he is given over for dead, and no farther notice taken of him. This conduct seems to be the result of ignorance, supported by an ancient superstitious notion, which forbids the body of any person killed by accident to be laid in a house that is inhabited. What the ground of this superstition may be, we shall not pretend to enquire; but surely the conduct founded upon it is contrary to all the principles of reason, humanity, and common sense.

When a person seems to be suddenly deprived of life, our first business is to enquire into the cause. We ought carefully to observe whether any substance be lodged in the wind-pipe or gullet; and, if that is the case, attempts must be made to remove it. When unwholesome air is the cause, the patient ought immediately to be removed out of it. If the circulation be suddenly stopped, from any cause whatever, except mere weakness, the patient should be bled. If the blood does not flow, he may be immersed in warm water, or rubbed with warm cloths, &c. to promote the circulation. When the cause cannot be suddenly removed, our great aim must be to keep up the vital warmth, by rubbing the patient with hot cloths, or salt, and covering his body with warm sand, ashes, or the like.

I should now proceed to treat more fully of those accidents, which, without immediate assistance, would often prove fatal, and to point out the most likely means for relieving the unhappy sufferers; but as I have been happily anticipated in this part of my subject by the learned and humane Dr. Tissot, I shall content myself with collecting such of his observations as seem to be the most important, and adding such of my own as have occurred in the course of practice.

Of Substances stopped between the Mouth and Stomach.

Though accidents of this kind are very common, and extremely dangerous, yet they are generally the effect of carelessness. Children should be taught to chew their food well, and to put nothing into their mouths which it would be dangerous for them to swallow. But children are not the only persons guilty of this piece of imprudence. I know many adults who put pins, nails, and other sharp-pointed substances in their mouths upon every occasion, and some who even sleep with the former there all night. This con-

duct is exceedingly injudicious, as a fit of coughing, or twenty other accidents, may force over the substance before the person is aware.*

When any substance is detained in the gullet there are two ways of removing it; viz. either by extracting it or pushing it down. The safest and most certain way is to extract it; but this is not always the easiest: it may, therefore, be more eligible sometimes to thrust it down, especially when the obstructing body is of such a nature that there is no danger from its reception into the stomach. The substances, which may be pushed down without danger, are, all common nourishing ones, as bread, flesh, fruits, and the like. All indigestible bodies, as cork, wood, bones, pieces of metal, and such like, ought, if possible, to be extracted, especially if these bodies be sharp-pointed, as pins, needles, fish-bones, bits of glass, &c.

When such substances have not passed in too deep, we should endeavour to extract them with our fingers; which method often succeeds. When they are lower we must make use of nippers, or a small pair of forceps, such as surgeons use. But this attempt to extract rarely succeeds, if the substance be of a flexible nature, and has descended far into the gullet.

If the fingers and pincers fail, or cannot be duly applied, crotchets, a kind of hooks, must be employed. These may be made at once, by bending a piece of pretty strong iron wire at one end. It must be introduced in the flat way; and, for the better conducting it, there should likewise be a curve or bending at the end it is held by, to serve as a kind of handle to it; which has this farther use, that it may be secured by a string tied to it; a circumstance not to be omitted in any instrument employed on such occasions, to avoid such ill-accidents as have sometimes ensued from these instruments slipping out of the operator's hand. After the crotchet has passed below the substance that obstructs the passage, it is drawn up again, and hooks up the body along with it. The crotchet is also very convenient when a substance somewhat flexible, as a pin or fish-bone, sticks across the gullet, the hook, in such cases, seizing them about their middle part, crooks and thus disengages them; or, if they are very brittle substances, serves to break them.

When the obstructing bodies are small, and only stop up a part of the passage, and which may either easily elude the hook, or straighten it by their resistance, a kind of rings, made either of wire, wool, or silk, may be used. A piece of fine wire of a proper length may be bent into a circle, about the middle, of about an inch diameter, and the long unbent sides brought parallel, and near each other: these are to be held in the hand, and the circular part or ring introduced into the gullet, in order to be conducted about the obstructing body, and so to extract it. More flexible rings may be made of wool, thread, silk, or small pack-thread, which may be waxed for their greater strength and consistence. One of these is to be tied fast to a handle of iron wire, whalebone, or any kind of flexible wood, and by this means introduced, in order to surround

* A woman in one of the hospitals of this city lately discharged a great number of pins, which she had swallowed in the course of her business, through an ulcer in her side.

the obstructing substance, and to draw it out. Several of these rings passed through one another may be used, the more certainly to lay hold of the obstructing body, which may be involved by one, if another should miss it. These rings have one advantage, which is, that when the substance to be extracted is once laid hold of, it may then, by turning the handle, be retained so strongly in the ring thus twisted, as to be moved every way, which must in many cases be a considerable advantage.

Another material employed on these unhappy occasions is the sponge. Its property of swelling considerably on being wet is the principal foundation of its usefulness here. If any substance is stopped in the gullet, but without filling up the whole passage, a bit of sponge may be introduced into that part which is unstopped, and beyond the substance. The sponge soon dilates, and grows larger in this moist situation; and, indeed, the enlargement of it may be forwarded by making the patient swallow a few drops of water. Afterwards it is to be drawn back by the handle to which it is fastened; and as it is now too large to return through the small cavity by which it was conveyed in, it draws out the obstructing body along with it.

The compressibility of sponge is another foundation of its usefulness in such cases. A pretty large piece of sponge may be compressed or squeezed into a small size, by winding a string of tape closely about it, which may be easily unwound and withdrawn, after the sponge has been introduced. A bit of sponge may likewise be compressed by a piece of whalebone split at one end; but this can hardly be introduced in such a manner as not to hurt the patient.

I have often known pins and other sharp bodies, which had stuck in the throat, brought up by causing the person to swallow a bit of tough meat tied to a thread, and drawing it quickly up again. This is safer than swallowing sponge, and will often answer the purpose equally well.

When all these methods prove unsuccessful, there remains one more, which is, to make the patient vomit: but this can scarcely be of any service, unless when such obstructing bodies are simply engaged in, and not hooked or stuck into the sides of the gullet, as in this case vomiting might sometimes occasion farther mischief. If the patient can swallow, vomiting may be excited by taking half a drachm or two scruples of ipecacuanha in powder made into a draught. If he is not able to swallow, an attempt may be made to excite vomiting, by tickling his throat with a feather; and, if that should not succeed, a clyster of tobacco may be administered. It is made by boiling a drachm of tobacco in twelve ounces of water. This has often been found to succeed, when other attempts to excite vomiting had failed.

When the obstructing body is of such a nature that it may with safety be pushed downwards, this may be attempted by means of a wax-candle oiled, and a little heated, so as to make it flexible; or a piece of whalebone, wire, or flexible wood, with a sponge fastened to one end.

Should it be impossible to extract even those bodies which it is dangerous to admit into the stomach, we must then prefer the least

of two evils, and rather run the hazard of pushing them down, than suffer the patient to perish in a few minutes; and we ought to scruple the resolution the less, as a great many instances have happened, where the swallowing of such hurtful and indigestible substances has been followed by no disorder.

Whenever it is manifest that all endeavours either to extract or push down the substance must prove ineffectual, they should be discontinued: because the inflammation occasioned by persisting in them might be as dangerous as the obstruction itself. Some have died in consequence of the inflammation, even after the body which caused the obstruction had been entirely removed.

While the means recommended above are making use of, the patient should often swallow, or, if he cannot, he should frequently receive by injection, through a crooked tube or pipe that may reach down to the gullet, some emollient liquor, as warm milk and water, barley-water, or a decoction of mallows. Injections of this kind not only soften and soothe the irritated parts, but, when thrown in with force, are often more successful in loosening the obstruction than all attempts with instruments.

When, after all our endeavours, we are obliged to leave the obstructing body in the part, the patient must be treated as if he had an inflammatory disease. He should be bled, kept upon a low diet, and have his whole neck surrounded with emollient poultices. The like treatment must also be used, if there be any reason to suspect an inflammation of the passages, though the obstructing body be removed.

A proper degree of agitation has sometimes loosened the inhering body more effectually than instruments. Thus a blow on the back has often forced up a substance which stuck in the gullet; but this is still more proper and efficacious when the substance gets into the windpipe. In this case, vomiting and sneezing are likewise to be excited. Pins, which stuck in the gullet, have been frequently discharged by riding on horseback, or in a carriage.

When any indigestible substance has been forced down into the stomach, the patient should use a very mild and smooth diet, consisting chiefly of fruits and farinaceous substances, as puddings, pottage, and soups. He should avoid all heating and irritating things, as wine, punch, pepper, and such like; and his drink should be milk and water, barley-water, or whey.

When the gullet is so strongly and fully closed, that the patient can receive no food by the mouth, he must be nourished by clysters of soup, jelly, and the like.

When the patient is in danger of being immediately suffocated, and all hope of freeing the passage is vanished, so that death seems at hand, if respiration be not restored, the operation of *bronchotomy*, or opening of the windpipe, must be directly performed. As this operation is neither difficult to an expert surgeon, nor very painful to the patient, and is often the only method which can be taken to preserve life in these emergencies, we thought proper to mention it, though it should only be attempted by surgeons skilled in anatomy.

Suspended Animation and Resuscitation.

Drowned Persons.—When a person has remained above a quarter of an hour under water, there can be no considerable hopes of his recovery. But as several circumstances may happen to have continued life, in such an unfortunate situation, beyond the ordinary term, we should never too soon resign the unhappy object to his fate, but try every method for his relief, as there are many well-attested proofs of the recovery of persons to life and health who had been taken out of the water apparently dead, and who remained a considerable time without exhibiting any signs of life.

The first thing to be done, after the body is taken out of the water, is to convey it as soon as possible to some convenient place where the necessary operations for its recovery may be performed. In doing this, care must be taken not to bruise or injure the body by carrying it in any unnatural posture, with the head downwards, or the like. If an adult body, it ought to be laid on a bed, or on straw, with the head a little raised, and carried on a cart or on men's shoulders, and kept in as natural and easy a position as possible. A small body may be carried in the arms.

In attempting to recover persons apparently drowned, the principal intention to be pursued is, *to restore, by gradual means, the natural warmth*, upon which all the vital functions depend, and to excite these functions by the application of stimulants, not only to the skin, but likewise to the lungs, intestines, &c.

A high degree of heat will not be necessary; a moderate degree will be sufficient. If the weather be under the freezing point, and the body, when stripped, feel cold, and nearly in the same condition with the water that is frozen, it will be necessary at first to rub it well with snow, or wash it with cold water; the sudden application of heat in such cases having been found very pernicious. In a short time, however, warmth must be gradually applied.

Though cold was by no means the cause of the person's death, yet it will prove an effectual obstacle to his recovery. For this reason, after stripping him of his wet clothes, his body must be strongly rubbed for a considerable time with coarse linen cloths, as warm as they can be made; and as soon as a well-heated bed can be got ready, he may be laid in it, and the rubbing should be continued. Warm clothes ought likewise to be frequently applied to the stomach and bowels, and hot bricks, or bottles of warm water, to the soles of his feet, and to the palms of his hands.

After the restoration of heat, volatile spirits should be frequently applied to the nose; and the spine of the back and pit of the stomach may be rubbed with warm brandy or spirit of wine. The temples ought also to be chafed with volatile spirits; and stimulating powders, as that of tobacco or marjoram, may be blown up the nostrils.

To renew the breathing, in the absence of a better apparatus, a strong person may blow his own breath into the patient's mouth with all the force he can, holding his nostrils at the same time. When it can be perceived by the rising of the chest or belly that the lungs are filled with air, the person ought to desist from blowing, and should press the breast and belly so as to expel the air

again; and this operation may be repeated for some time, alternately inflating and depressing the lungs, so as to imitate natural respiration.

If the lungs cannot be inflated in this manner, it may be attempted by blowing through one of the nostrils, and at the same time keeping the other close. Dr. Monro, for this purpose, recommends a wooden pipe fitted at one end for filling the nostrils, and at the other for being blown into by a person's mouth, or for receiving the pipe of a pair of bellows, to be employed for the same purpose, if necessary.

When air cannot be forced into the chest by the mouth or nose, it may be necessary to make an opening into the windpipe for this purpose. It is needless, however, to spend time in describing this operation, as it should not be attempted unless by persons skilled in surgery.

It was the practice, some time ago, to employ the smoke of tobacco; but this, instead of answering any good purpose, has proved injurious, by further depressing the vital principle. Instead of this, therefore, a clyster is recommended, consisting of a pint or more of water, moderately warmed, to which may be added a little volatile spirit, essence of peppermint, or rectified spirit.

While these things are doing, some of the attendants ought to be preparing a warm-bath, into which the person should be put, if the above endeavours prove ineffectual. Where there are no conveniences for using the warm-bath, the body may be covered with warm sand, ashes, grains, or such like. Tissot mentions an instance of a girl who was restored to life, after she had been taken out of the water, swelled, bloated, and to all appearance dead, by laying her naked body upon hot ashes, covering her with others equally hot, putting a bonnet upon her head, and a stocking round her neck, stuffed with the same, and heaping coverings over all. After she had remained half an hour in this situation, her pulse returned, she recovered speech, and cried out, *I freeze, I freeze:* a little cherry brandy was given her, and she remained buried, as it were, under the ashes for eight hours: afterwards she was taken out, without any other complaint, except that of lassitude or weariness, which went off in a few days. The Doctor mentions likewise an instance of a man who was restored to life, after he had remained six hours under water, by the heat of a dunghill.*

When there is reason to suppose that the skin has, in some degree, recovered its sensibility, the wrists, ancles, temples, and parts over the stomach and heart may be rubbed with a little volatile liniment, which will evaporate but slowly, and produce no cold on being rubbed in. In cases of suspended animation, it has likewise been usual to stimulate the stomach and intestines; the former by means of some moderately warm liquor, such as negus highly spiced, introduced into the organ through a flexible tube, and the latter by means of injections.

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* From some late experiments made by Professor Aldini, of the university of Bologna, on the body of a malefactor, it would appear that galvanism, as an auxiliary, promises great advantages to the interests of humanity, in cases of drowning and other instances of suspended animation. With this view, also, electricity is sometimes resorted to; unless, however, employed by insulation alone, it will be more likely to do harm than good. Ed.

Till the patient show some signs of life, and is able to swallow, it would be useless and even dangerous to pour liquors into his mouth. His lips, however, and tongue, may be frequently wet with a feather, dipped in warm brandy or other strong spirits; and, as soon as he has recovered the power of swallowing, a little warm wine, or some other cordial, ought every now and then to be administered.

Some recommend a vomit after the patient is a little reanimated; but if he can be made to puke without the sickening draught, it will be more safe: this may generally be done by tickling the throat and fauces with an oiled feather, or some other soft substance, which will not injure the parts. Tissot, in this case, recommends the oxymel of squills, a table-spoonful of which, diluted with water, may be given every quarter of an hour, till the patient has taken five or six doses. Where that medicine is not at hand, a strong infusion of sage, camomile-flowers, or *carduus benedictus*, sweetened with honey, or some warm water, with the addition of a little salt, may, he says, supply its place. The Doctor does not intend that any of these things should be given in such quantity as to occasion vomiting. He thinks emetics, in this situation are not expedient.

We are by no means to discontinue our assistance as soon as the patients discover some tokens of life, since they sometimes expire after these first appearances of recovering. The warm and stimulating applications are still to be continued, and small quantities of some cordial liquor ought frequently to be administered. Lastly, though the person should be manifestly reanimated, there sometimes remains an oppression, a cough, and feverishness, which effectually constitute a disease. In this case, it will be necessary to bleed the patient in the arm, and to cause him to drink plentifully of barley-water, elder-flower tea, or any other soft pectoral infusion.

Such persons as have the misfortune to be deprived of the appearance of life by a fall, a blow, suffocation, or the like, must be treated nearly in the same manner as those who have been for some time under water. I once attended a patient who was so stunned by a fall from a horse, that for above six hours he scarcely exhibited any signs of life; yet this man, by being bled, and proper methods taken to keep up the vital warmth, recovered, and in a few days was perfectly well. Dr. Alexander gives an instance to the same purpose, in the Edinburgh Physical and Literary Essays, of a man who was to all appearance killed by a blow on the breast, but recovered upon being immersed for some time in warm water. These and other instances of a similar nature, which might be adduced, amount to a full proof of this fact, that many of those unhappy persons who lose their lives by falls, blows, and other accidents, might be saved *by the use of proper means duly persisted in.*

Of Noxious Vapours. (*Aerial Poisons.*)

Air may be many ways rendered noxious, or even destructive to animals. This may either happen from its vivifying principle being destroyed, or from subtle exhalations with which it is impreg-

nated. Thus air that has passed through burning fuel is neither capable of supporting fire nor the life of animals. Hence the danger of sleeping in close chambers with coal fires. Some, indeed, suppose the danger here proceeds from the sulphureous oil contained in the coal, which is set at liberty and diffused all over the chamber; while others imagine it is owing to the air of the room being charged with phlogiston. Be this as it may, it is a situation carefully to be avoided. Indeed, it is dangerous to sleep in a small apartment with a fire of any kind. I lately saw four persons who had been suffocated by sleeping in an apartment where a small fire of coal had been left burning.

The vapour which exhales from wine, cider, beer, or other liquors, in the state of fermentation, contains something poisonous, which kills in the same manner as the vapour of coal. Hence there is always danger in going into cellars where a large quantity of these liquors is in a state of fermentation, especially if they have been close shut up for some time. There have been many instances of persons struck dead on entering such places, and of others who have with difficulty escaped.

When subterraneous caves, that have been very long shut, are opened, or when deep wells are cleaned, which have not been emptied for several years, the vapours arising from them produce the same effects as those mentioned above. For this reason, no person ought to venture into a well, pit, cellar, or any place that is damp, and has been long shut up, till the air has been sufficiently purified, by burning gunpowder in it. It is easy to know, as has been observed in a former part of this work, when the air of such places is unwholesome, by letting down a lighted candle, throwing in burning fuel, or the like. If these continue to burn, people may safely venture in; but where they are suddenly extinguished, no one ought to enter till the air has been first purified by fire.

The offensive smell of lamps and of candles, especially when their flames are extinguished, operate like other vapours, though with less violence, and less suddenly. There have, however, been instances of people killed by the fumes of lamps which had been extinguished in a close chamber; and persons of weak, delicate breasts, generally find themselves quickly oppressed in apartments illuminated with many candles.

Such as are sensible of their danger in these situations, and retreat seasonably from it, are generally relieved as soon as they get into the open air, or, if they have any remaining uneasiness, a little water and vinegar, or lemonade, drank hot, affords them relief. But when they are so far poisoned, as to have lost their feeling, and understanding, the following means must be used for their recovery:—

The patient should be exposed to a very pure, fresh, and open air; and volatile salts, or other stimulating substances, held to his nose. He should next be bled in the arm, or, if that does not succeed, in the neck. His legs ought to be put into warm water, and well rubbed. As soon as he can swallow, some lemonade, or water and vinegar, with the addition of a little nitre, may be given him.

Nor are sharp clysters by any means to be neglected; these may

be made, by adding to the common clyster, syrup of buckthorn and tincture of senna, of each two ounces; or, in their stead, half an ounce of Venice turpentine dissolved in the yolk of an egg. Should these things not be at hand, two or three large spoonsful of common salt may be put into the clyster. The same means, if necessary, which were recommended in the former part of this chapter, may be used to restore the circulation, warmth, &c.

Mr. Tossach, surgeon, at Alloa, relates the case of a man suffocated by the steam of burning coal, whom he recovered by blowing his breath into the patient's mouth, bleeding him in the arm, and causing him to be well rubbed and tossed about. And Dr. Frewen, of Sussex, mentions the case of a young man who was stupified by the smoke of sea-coal, but was recovered by being plunged into cold water, and afterwards laid in a warm bed.

The practice of plunging persons suffocated by noxious vapours in cold water would seem to be supported by the common experiment of suffocating dogs in the *Grotto del Cani*, and afterwards recovering them by throwing them into the neighbouring lake.

When a person dies from suffocation, the symptoms are nearly the same in apoplexy.

Effects of Extreme Cold.

When cold is extremely severe, and a person is exposed to it for a long time, it proves mortal, in consequence of its stopping the circulation in the extremities, and forcing too great a proportion of blood towards the brain; so that the patient dies of a kind of apoplexy, preceded by great sleepiness. The traveller, in this situation, who finds himself begin to grow drowsy, should redouble his efforts to extricate himself from the imminent danger he is exposed to. This sleep, which he might consider as some alleviation of his sufferings, would, if indulged, prove his last.

Such violent effects of cold are happily not very common in this country: it frequently happens, however, that the hands or feet of travellers are so benumbed or frozen, as to be in danger of a mortification, if proper means are not used to prevent it. The chief danger in this situation arises from the sudden application of heat. It is very common, when the hands or feet are pinched with cold, to hold them to the fire; yet reason and observation show, that this is a most dangerous and imprudent practice.

Every peasant knows, if frozen meat, fruits, or roots of any kind, be brought near the fire, or put into warm water, they will be destroyed by rottenness, or a kind of mortification; and that the only way to recover them, is to immerse them for some time in very cold water. The same observation holds with regard to animals in this condition.

When the hands or feet are greatly benumbed with cold, they ought either to be immersed in cold water, or rubbed with snow, till they recover their natural warmth and sensibility: after which, the person may be removed into an apartment a little warmer, and may drink some cups of tea, or an infusion of elder-flowers sweetened with honey. Every person must have observed, when his hands were even but slightly affected with cold, that the best way

to warm them was by washing them in cold water, and continuing to rub them well for some time.

When, therefore, the hands, feet, or nose, or any other part of the body have been exposed to violent cold, so as to be frost-bitten, they ought at first either to be well rubbed with snow, or be put into cold water, and afterwards be subjected to warmth in the most gentle and gradual manner.

When a person has been so long exposed to the cold, that all appearances of life are gone, it will be necessary to rub him all over with snow or cold water; or, what will answer better, if it can be obtained, to immerse him in a bath of the very coldest water. There is the greatest encouragement to persist in the use of these means, as we are assured that persons who had remained in the snow, or had been exposed to the freezing air during five or six successive days, and who had discovered no marks of life for several hours, have nevertheless been revived.

If the power of swallowing be restored, some warm and gently stimulating drink should be given, such as thin broth, with a little brandy in it, or water with some wine, administered by a spoonful at a time. While the body is cold, and the circulation and respiration are languid, blood-letting might be improper. If, however, after these functions, and the natural temperature are restored, the patient should remain any time in a comatose state, with a strong full pulse, the propriety and necessity of venesection can hardly be doubted.

I have always thought, that the whitloes, kibes, chilblains, and other inflammations of the extremities, which are so common among the peasants in the cold season, were chiefly occasioned by their sudden transitions from cold to heat. After they have been exposed to an extreme degree of cold, they immediately apply their hands and feet to the fire, or, if they have occasion, plunge them into warm water, by which means, if a mortification does not happen, an inflammation seldom fails to ensue. Most of the ill consequences from this quarter might be easily avoided, by only observing the precautions mentioned above.

Effects of extreme Heat.

The effects of extreme heat, though not so common in this country, are no less fatal, and much more sudden than those of cold. In hot countries people frequently drop down dead in the streets, exhausted with heat and fatigue. In this case, if any warm cordial can be poured into the mouth, it ought to be done. If this cannot be effected, they may be thrown up in form of a clyster. Volatile spirits, and other things of a stimulating nature, may be applied to the skin, which should be well rubbed with coarse cloths, whipped with nettles, or other stimulating things. Some of the ancient physicians are said to have restored to life persons apparently dead, by beating them with rods.

Head-aches are often occasioned by exposure to intense heat; and in warm climates, where people are very liable to what they call *coups de soleil*, or strokes of the sun, it is a common custom to lay linen cloths, several times doubled, on the head, and to keep

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"sleep; when, proper things being given her, she soon recovered.

"The maid being asked how she came to think of this expedi-"ent, said, she had seen it practised at Altenburgh, by midwives, "upon children, with the happiest effect."

We mention this case chiefly that other midwives may be induced to follow so laudable an example. Many children are born without any signs of life, and others expire soon after the birth, who might, beyond all doubt, by proper care, have been restored to life.

From whatever cause fainting fits proceed, fresh air is always of the greatest importance to the patient. By not attending to this circumstance, people often kill their friends while they are endeavouring to save them. Alarmed at the patient's situation, they call in a crowd of people to his assistance, or perhaps to witness his exit, whose breathing exhausts the air, and increases the danger. There is not the least doubt but this practice, which is very common among the lower sort of people, often proves fatal, especially to the delicate, and such persons as fall into fainting fits from mere exhaustion, or the violence of some disease. No more persons ought ever to be admitted into the room where a patient lies in a swoon than are absolutely necessary for his assistance, and the windows of the apartment should always be opened, at least as far as to admit a stream of fresh air.

Persons subject to frequent swoonings, or fainting fits, should neglect no means to remove the cause of them, as their consequences are always injurious to the constitution. Every fainting fit leaves the person in dejection and weakness; the secretions are thereby suspended, the humours disposed to stagnation, coagulations and obstructions are formed, and, if the motion of the blood be totally intercepted, or very considerably checked, *polypuses* are sometimes formed in the heart or larger vessels. The only kind of swoonings not to be dreaded are those which sometimes mark the *crisis* in fevers; yet even these ought, as soon as possible, to be removed.

I have before remarked, but I deem it of importance to repeat the observation, that it is only when the fainting fit evidently arises from a fulness of the habit, and is accompanied with a total abolition of feeling and understanding, that bleeding is advisable. The use of the lancet might otherwise have the most deadly effect. Many persons, even of robust constitutions, are very apt to faint upon having a vein opened and losing a little blood. How dangerous, then, must the operation be, when a patient has already fainted, and most probably from extreme weakness and a defect of blood! I have no doubt but many a murder has been rashly committed in such cases.

Of Intoxication.

The effects of intoxication are often fatal. No kind of poison kills more certainly than an overdose of ardent spirits. Sometimes, by destroying the nervous energy, they put an end to life at once; but in general their effects are more slow, and in many respects similar to those of opium. Other kinds of intoxicating liquors

may prove fatal when taken to excess, as well as ardent spirits; but they may generally be discharged by vomiting, which ought always to be excited when the stomach is overcharged with liquor.

More of those unhappy persons who die intoxicated, lose their lives from an inability to conduct themselves, than from the destructive quality of the liquor. Unable to walk, they tumble down, and lie in some awkward posture, which obstructs the circulation or breathing, and often continue in this situation till they die. No person, when drunk, should be left by himself, till his clothes have been loosened, and his body laid in such a posture as is most favourable for continuing the vital motions and discharging the contents of the stomach. The best posture for discharging the contents of the stomach is to lay the person upon his belly; when asleep, he may be laid on his side, with his head a little raised, and particular care must be taken that his neck be no way bent, twisted, or have any thing too tight about it.

The excessive degree of thirst occasioned by drinking strong liquors often induces people to quench it by taking what is hurtful. I have known fatal consequences even from drinking freely of milk after a debauch of wine or sour punch; these acid liquors, together with the heat of the stomach, having coagulated the milk in such a manner that it could never be digested. The safest drink after a debauch is water with a toast, tea, infusions of balm, sage, barley-water and such like. If the person wants to vomit, he may drink a weak infusion of camomile flowers or luke-warm water and oil; but in this condition, vomiting may generally be excited by only tickling the throat with the finger or a feather.

Instead of giving a detail of all the different symptoms of intoxication which indicate danger, and proposing a general plan of treatment for persons in this situation, I shall briefly relate the history of a case which lately fell under my own observation, wherein most of those symptoms usually reckoned dangerous concurred, and where the treatment was successful.

A young man, about fifteen years of age, had, for a hire, drank ten glasses of strong brandy. He soon after fell fast asleep, and continued in that situation for several hours, till at length his uneasy manner of breathing, the coldness of the extremities, and other threatening symptoms, alarmed his friends, and made them send for me. I found him still sleeping, his countenance ghastly, and his skin covered with a cold clammy sweat. Almost the only signs of life remaining were, a deep laborious breathing, and a convulsive motion or agitation of his bowels.

I tried to rouse him, but in vain, by pinching, shaking, applying volatile spirits, and other stimulating things to his nose, &c. A few ounces of blood were likewise taken from his arm, and a mixture of vinegar and water was poured into his mouth; but as he could not swallow, very little of this got into the stomach. None of these things having the least effect, and the danger seeming to increase, I ordered his legs to be put into warm water, and a sharp clyster to be immediately administered. This gave him a stool, and was the first thing that relieved him. It was afterwards repeated with the same happy effect, and seemed to be the chief cause of his recovery. He then began to show some signs of life,

took drink when it was offered him, and came gradually to his senses. He continued, however, for several days weak and feverish, and complained much of a soreness in his bowels, which gradually went off, by means of a slender diet, and cool mucilaginous liquors.

This young man would probably have been suffered to die, without any assistance being called, had not a neighbour, a few days before, who had been advised to drink a bottle of spirits to cure him of an ague, expired under very similar circumstances.*

Of Suffocation and Strangling, from Hanging, Drowning, and other Causes.

In cases where life is suspended from hanging, the same means as recommended for drowned people are to be adopted, with the addition of opening the jugular veins, or applying cupping-glasses to the neck, which will tend considerably to facilitate the restoration of life, by lessening the quantity of blood contained in the vessels of the head, and thereby taking off the pressure from the brain. Except in persons of a full plethoric habit, the quantity drawn off need seldom exceed an ordinary tea-cupful, which in general will be sufficient to unload the vessels of the head, without weakening the powers of life.

Suffocation may sometimes proceed from an infarction of the lungs, produced by viscid clammy humours, or a spasmodic affection of the nerves of that organ. Persons who feed grossly, and abound in rich blood, are very liable to suffocating fits from the former of these causes. Such ought, as soon as they are attacked, to be bled, to receive an emollient clyster, and to take frequently a cup of diluting liquor with a little nitre in it. They should likewise receive the steams of hot vinegar into their lungs by breathing.

Nervous and asthmatic persons are most subject to spasmodic affection of the lungs. In this case the patient's legs should be immersed in warm water, and the steams of vinegar applied as above. Warm diluting liquors should likewise be drunk; to a cup of which a tea-spoonful of the paregoric elixir may occasionally be added. Burnt paper, feathers, or leather, may be held to the patient's nose, and fresh air should be freely admitted to him.

Infants are often suffocated by the carelessness or inattention of their nurses.† An infant when in bed should always be laid so, that it cannot tumble down with its head under the bed clothes; and when in a cradle, its face ought never to be covered. A small degree of attention to these two simple rules would save the lives

* I have seen repeated instances of persons being restored to perfect sobriety, and the complete use of their senses, from a state of most alarming intoxication, by taking away eight or ten ounces of blood from the nape of the neck, as near the head as possible, by means of cupping-glasses. The same effect is produced by taking blood from the arm, but the practice is not perhaps quite so safe; cupping certainly deserves the preference. A. P. B.

† These accidents are not always the effects of carelessness. I have known an infant overlaid by its mother being seized in the night with a hysteric fit. This ought to serve as a caution against employing hysteric women as nurses; and should likewise teach such women never to lay an infant in the same bed with themselves, but in a small adjacent one.

of many infants, and prevent others from being rendered weak and sickly all their days by the injuries done to their lungs.

Instead of laying down a plan for the recovery of infants who are suffocated, or overlaid, as it is termed by their nurses, I shall give the history of a case related by Monsieur Janin, of the Royal College of Surgery at Paris, as it was attended with success, and contains almost every thing that can be done on such occasions.

A nurse having had the misfortune to overlay a child, he was called in, and found the infant without any signs of life; no pulsation in the arteries, no respiration, the face livid, the eyes open, dull, and tarnished, the nose full of snivel, the mouth gaping, in short it was almost cold. Whilst some linen clothes and a parcel of ashes were warming, he had the boy unswathed, and laid him in a warm bed, and on the right side. He then was rubbed all over with fine linen, for fear of fretting his tender and delicate skin. As soon as the ashes had received their due degree of heat, Mr. Janin buried him in them, except the face, placed him on the side opposite to that on which he had been at first laid, and covered him with a blanket. He had a bottle of *eau de luce* in his pocket, which he presented to his nose from time to time; and between whiles some puffs of tobacco were blown up his nostrils; to these succeeded the blowing into his mouth, and squeezing tight his nose. Animal heat began thus to be excited gradually: the pulsations of the temporal artery were soon felt, the breathing became more frequent and free, and the eyes closed and opened alternately. At length the child fetched some cries expressive of his want of the breast, which being applied to his mouth, he catched it with avidity, and sucked as if nothing had happened to him. Though the pulsations of the arteries were by this time very well re-established, and it was hot weather, yet Mr. Janin thought it advisable to leave his little patient three quarters of an hour longer under the ashes. He was afterwards taken out, cleaned and dressed as usual; to which a gentle sleep succeeded, and he continued perfectly well.

Mr. Janin mentions likewise an example of a young man, who had hanged himself through despair, to whom he administered help as effectually as in the preceding case.

Mr. Glover, surgeon in Doctors' Commons, London, relates the case of a person who was restored to life after twenty-nine minutes hanging, and continued in good health for many years after.

The principal means used to restore this man to life were, opening the temporal artery and the external jugular; rubbing the back, mouth, and neck, with a quantity of volatile spirits and oil; administering the tobacco-clyster by means of lighted pipes, and strong frictions of the legs and arms. This course had been continued for about four hours, when an incision was made into the windpipe, and air blown strongly through a canula into the lungs. About twenty minutes after this, the blood at the artery began to run down the face, and a slow pulse was just perceptible at the wrist. The frictions were continued for sometime longer; his pulse became more frequent, and his mouth and nose being irritated with spirit of sal ammoniac, he opened his eyes. Warm cordials were then administered to him, and in two days he was so well as to be able to walk eight miles.

These cases are sufficient to show what may be done for the recovery of those unhappy persons who strangle themselves in a fit of despair.

Of Persons who expire in Convulsion-Fits.

Convulsion-fits often constitute the last scene of acute or chronic disorders. When this is the case, there can remain but small hopes of the patient's recovery after expiring in a fit. But when a person who appears to be in perfect health is suddenly seized with a convulsion-fit, and seems to expire, some attempts ought always to be made to restore him to life. Infants are most liable to convulsions, and are often carried off very suddenly by one or more fits about the time of teething. There are many well-authenticated accounts of infants having been restored to life, after they had to all appearance expired in convulsions; but we shall only relate the following instance mentioned by Dr. Johnson, in his pamphlet *On the Practicability of recovering Persons visibly dead.*

In the parish of *St. Clements* in *Colchester*, a child of six months old, lying upon its mother's lap, having had the breast, was seized with a strong convulsion-fit, which lasted so long, and ended with so total a privation of motion in the body, lungs, and pulse, that it was deemed absolutely dead. It was accordingly stripped, laid out, the passing bell ordered to be tolled, and a coffin to be made; but a neighbouring gentlewoman, who used to admire the child, hearing of its sudden death, hastened to the house, and upon examining the child, found it not cold, its joints limber, and fancied that a glass she held to its mouth and nose was a little damped with the breath; upon which she took the child in her lap, sat down before the fire, rubbed it, and kept it in gentle agitation. In a quarter of an hour she felt the heart begin to beat faintly; she then put a little of the mother's milk into its mouth, continued to rub its palms and soles, found the child begin to move, and the milk was swallowed; and in another quarter of an hour she had the satisfaction of restoring to its disconsolate mother the babe quite recovered, eager to lay hold of the breast, and able to suck again. The child throve, had no more fits, is grown up, and at present alive.

These means, which are certainly in the power of every person, were sufficient to restore to life an infant to all appearance dead, and who, in all probability, but for the use of these simple endeavours, would have remained so. There are, however, many other things which might be done in case the above should not succeed; as rubbing the body with strong spirits, covering it with warm ashes or salt, blowing air into the lungs, throwing up warm stimulating clysters or the smoke of tobacco into the intestines, and such like.

When children are dead-born, or expire soon after the birth, the same means ought to be used for their recovery, as if they had expired in circumstances similar to those mentioned above.

These directions may likewise be extended to adults, attention being always paid to the age and other circumstances of the patient.

The foregoing cases and observations afford sufficient proof of

the success which may attend the endeavours of persons totally ignorant of medicine, in assisting those who are suddenly deprived of life by an accident or disease. Many facts of a similar nature might be adduced, were it necessary: but these, it is hoped, will be sufficient to call up the attention of the public, and to excite the humane and benevolent to exert their utmost endeavours for the preservation of their fellow-men.

The Society for the Recovery of drowned Persons, instituted at Amsterdam in the year 1767, had the satisfaction to find that no fewer than 150 persons, in the space of four years, had been saved by the means pointed out by them, many of whom owed their preservation to peasants and people of no medical knowledge. But the means used with so much efficacy in recovering drowned persons are, with equal success, applicable to a number of cases where the powers of life seem in reality to be only suspended, and to remain capable of renewing all their functions, on being put into motion again. It is shocking to reflect, that for want of this consideration, many persons have been committed to the grave in whom the principles of life might have been revived.*

The cases wherein such endeavours are most likely to be attended with success are all those called sudden deaths from an invisible cause, as apoplexies, hysterics, faintings, and many other disorders wherein persons in a moment sink down and expire. The various casualties in which they may be tried are, suffocations from the sulphureous damps of mines, coal-pits, &c.; the unwholesome air of long-unopened wells or caverns; the noxious vapours arising from fermenting liquors; the steams of burning charcoal; sulphureous mineral acids; arsenical effluvia, &c.

The various accidents of drowning, strangling, and apparent deaths, by blows, falls, hunger, cold, &c. likewise furnish opportunities of trying such endeavours. Those, perhaps, who, to appearance, are killed by lightning, or by any violent agitation of the passions, as fear, joy, surprise, and such like, might also be frequently recovered by the use of proper means, as blowing strongly into the lungs, &c.

The means to be used for the recovery of persons suddenly deprived of life are nearly the same in all cases; they are practicable by every one who happens to be present at the accident, and require no great expence, and less skill. The great aim is to restore the warmth and vital motions. This may in general be attempted by means of heat, frictions, bleeding, blowing air into the lungs, administering clysters, and generous cordials. These must be varied according to circumstances. Common sense, and the situation of the patient, will suggest the proper manner of conducting them. Above all, we would recommend *perseverance*. People ought never to despair on account of discouraging circumstances, or to leave off their endeavours as long as there is the least hope of success. Where much good and no hurt can be done, no one ought to grudge his labour.

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* The Royal Humane Society for the recovery of drowned persons, in London, is now equal, if not superior to any similar institution in Europe; and the laudable endeavours, persevering efforts, and encouragement given by its members to promote its utility, are at least upon the same scale, as far as the means are adapted to the ends. Ed.

CHAP. VI.

DISEASES OF WOMEN.

Women, in all civilized nations, have the management of domestic affairs, and it is very proper they should, as nature has made them less fit for the more active and laborious employments. This indulgence, however, is generally carried too far; and females, instead of being benefitted by it, are greatly injured, from the want of exercise and free air. To be satisfied of this, one need only compare the fresh and ruddy looks of a milk-maid, with the pale complexion of those females whose whole time is spent within doors. Though nature has made an evident distinction between the male and the female with regard to bodily strength and vigour, yet she certainly never meant, either that the one should be always without, or the other always within doors.

The confinement of females, besides hurting their figure and complexion, relaxes their solids, weakens their minds, and disorders all the functions of the body. Hence proceed obstructions, indigestion, flatulence, abortions, and the whole train of nervous disorders. These not only unfit women for being mothers and nurses, but often render them whimsical and ridiculous. A sound mind depends so much upon a healthy body, that where the latter is wanting, the former is rarely to be found.

I have always observed, that women who were chiefly employed without doors, in the different branches of husbandry, gardening, and the like, were almost as hardy as their husbands, and that their children were likewise strong and healthy. But as the bad effects of confinement and inactivity upon both sexes have been already shown, we shall proceed to point out those circumstances in the structure and design of females, which subject them to peculiar diseases, the chief of which are, their *monthly evacuations*, *pregnancy*, and *child-bearing*. These, indeed, cannot properly be called diseases; but, from the delicacy of the sex, and their being often improperly managed in such situations, they become the source of numerous calamities.

The Menstrual Discharge. *(Catamenia.)*

Females generally begin to menstruate about the age of fifteen, and leave it off about fifty, which renders these two periods the most critical of their lives. About the first appearance of this discharge, the constitution undergoes a very considerable change, generally indeed for the better, though sometimes for the worse. The greatest care is now necessary, as the future health and happiness of the female depend in a great measure upon her conduct at this period.*

* It is the duty of mothers, and those who are intrusted with the education of girls, to instruct them early in the conduct and management of themselves at this critical period of their lives. False modesty, inattention, and ignorance of what is beneficial or hurtful at this time, are the sources of many diseases and misfortunes in life, which a few sensible lessons from an experienced matron might have prevented. Nor is care less necessary in the subsequent return of this discharge. Taking improper food, violent affections of the mind, or catching cold at this period, is often sufficient to ruin the health, or to render the female ever after incapable of procreation.

If a girl about this time of life be confined to the house, kept constantly sitting, and neither allowed to romp about, nor employed in any active business, which gives exercise to the whole body, she becomes weak, relaxed, and puny; her blood not being duly prepared, she looks pale and wan; her health, spirits, and vigour decline, and she sinks into a valetudinarian for life. Such is the state of numbers of those unhappy females, who, either from too much indulgence, or their own narrow circumstances, are at this critical period, denied the benefit of exercise and free air.

A lazy, indolent disposition proves likewise very hurtful to girls at this period. One seldom meets with complaints from obstructions amongst the more active and industrious part of the sex; whereas the indolent and lazy are seldom free from them. These are in a manner eaten up by the *chlorosis*, or green-sickness, and other diseases of this nature. We would, therefore, recommend it to all who wish to escape these calamities, to avoid indolence and inactivity as their greatest enemies, and to be as much abroad in the open air as possible.

Another thing which proves very hurtful to girls about this period of life, is unwholesome food. Fond of all manner of trash, they often indulge in it, till their whole humours are quite vitiated. Hence ensue indigestions, want of appetite, and a numerous train of evils. If the fluids be not duly prepared, it is utterly impossible that the secretions should go properly on. Accordingly we find that such girls as lead an indolent life, and eat great quantities of trash, are not only subject to obstructions of the *menses*, but likewise to glandular obstructions; as the scrofula, or king's evil, &c.

A dull disposition is also very hurtful to girls at this period. It is a rare thing to see a sprightly girl who does not enjoy good health, while the grave, moping, melancholy creature proves the very prey of vapours and hysterics. Youth is the season for mirth and cheerfulness; let it therefore be indulged; it is an absolute duty. To lay in a stock of health in time of youth, is as necessary a piece of prudence, as to make provision against the decays of old age. While, therefore, wise nature prompts the happy youth to join in sprightly amusements, let not the severe dictates of hoary age forbid the useful impulse, nor damp with serious gloom the season destined to mirth and innocent festivity.

Another thing very hurtful to females about this period of life, is strait clothes. They are fond of a fine shape, and foolishly imagine that this can be acquired by lacing themselves tight. Hence, by squeezing the stomach and bowels, they hurt the digestion, and occasion many incurable maladies. This error is not indeed so common as it has been, but, as fashions change, it may come about again; we therefore think it not improper to mention it. I know many females who, to this day, feel the dreadful effects of that wretched custom which prevailed some years ago, of squeezing every girl into as small a size in the middle as possible. Human invention could not possibly have devised a practice more destructive to health.

After a female has arrived at that period of life when the *menses* usually begin to flow, and they do not appear, but, on the contrary, her health and spirits begin to decline, we would advise, instead of

shutting the poor girl up in the house, and dosing her with steel, asafœtida, and other nauseous drugs, to place her in a situation where she can enjoy the benefit of free air and agreeable company. There let her eat wholesome food, take sufficient exercise, and amuse herself in the most agreeable manner; and we have little reason to fear, but nature, thus assisted, will do her proper work. Indeed she seldom fails, unless where the fault is on our side.

This discharge in the beginning is seldom so instantaneous as to surprise females unawares. It is generally preceded by symptoms which foretell its approach; as a sense of heat, weight, and dull pain in the loins; distention and hardness of the breasts; headache, loss of appetite, lassitude, paleness of the countenance, and sometimes a slight degree of fever. When these symptoms appear about the age at which the menstrual flux usually begins, every thing should be carefully avoided which may obstruct that necessary and salutary evacuation, and all means used to promote it; as sitting frequently over the steams of warm water, drinking warm diluting liquors, &c.

After the *menses* have once begun to flow, the greatest care should be taken to avoid every thing that may tend to obstruct them. Females ought to be exceedingly cautious of what they eat or drink at the time they are out of order. Every thing that is cold, or apt to sour on the stomach, ought to be avoided; as fruit, buttermilk, and such like. Fish, and all kinds of food that are hard of digestion, are also to be avoided. As it is impossible to mention every thing that may disagree with individuals at this time, we would recommend it to every female to be very attentive to what disagrees with herself, and carefully to avoid it.

Cold is extremely hurtful at this particular period. More of the sex date their diseases from colds caught while they are out of order, than from all other causes. This ought surely to put them upon their guard, and to make them very circumspect in their conduct at such times. A degree of cold that will not in the least hurt them at another time, will at this period be sufficient entirely to ruin their health and constitution.

The greatest attention ought likewise to be paid to the mind, which should be kept as easy and cheerful as possible. Every part of the animal economy is influenced by the passions, but none more so than this. Anger, fear, grief, and other affections of the mind, often occasion obstructions of the menstrual flux, which prove absolutely incurable.

As far as my observation goes, there are no women in the world so inattentive to this discharge as the English; and they suffer accordingly, as a very great number of them are obstructed, and many prove barren in consequence.

From whatever cause this flux is obstructed, except in the state of pregnancy, proper means should be used to restore it. For this purpose we would recommend sufficient exercise in a dry, open, and rather cool air; wholesome diet, and, if the body be weak and languid, generous liquors; also cheerful company and all manner of amusements. If these fail, recourse must be had to medicine.

When obstructions proceed from a weak relaxed state of the solids, such medicines as tend to promote digestion, to brace the

solids, and assist the body in preparing good blood, ought to be used. For this purpose, I have of late made use of pills composed of prepared steel, powdered myrrh,* and the best aloes, equal parts. These must be formed into pills of the common size, and two or three of them given every night at bed-time. The principal medicines, however, are iron, and the Peruvian bark, with other bitters and astringents. Filings of iron may be infused in wine or ale, two or three ounces to an English quart, and after it has stood for two or three weeks, it may be filtered, and about half a wine-glass of it taken twice a-day; or prepared steel may be taken in the dose of half a drachm, mixed with a little honey or treacle, three or four times a-day. The bark and other bitters may either be taken in substance or infusion, as is most agreeable to the patient.

Previous, however, to the use of these medicines, it may be advisable to give a gentle emetic, for the purpose of cleansing the stomach, and freeing it from acidities and inactive fluids.

When obstructions proceed from a viscid state of the blood, or for women of a gross or full habit, evacuations, and such medicines as attenuate the humours, are necessary. The patient in this case ought to be bled, to bathe her feet frequently in warm water, to take now and then a cooling purge, and to live upon a spare thin diet. Her drink should be whey, water, or small beer, and she ought to take sufficient exercise. A teaspoonful of the tincture of black hellebore may also be taken twice a-day in a cup of warm water.

When obstructions proceed from affections of the mind, as grief, fear, anger, &c. every method should be taken to amuse and divert the patient. And that she may the more readily forget the cause of her affliction, she ought, if possible, to be removed from the place where it happened. A change of place, by presenting the mind with a variety of new objects, has often a very happy influence in relieving it from the deepest distress. A soothing, kind, and affable behaviour to females in this situation is also of the last importance.

An obstruction of the *menses* is often the effect of other maladies. When this is the case, instead of giving medicines to force that discharge, which might be dangerous, we ought by all means to endeavour to restore the patient's health and strength. When that is effected, the other will return of course.

Immoderate Flow of the Menses.

The flow of the menses is to be considered as immoderate, when it either returns more frequently than what is natural, continues longer than ordinary, or is more abundant than is usual with the

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* Take Myrrh, ½ drachm.
Subcarbonate of Soda, 15 grains.
Sulphate of Iron, 1 scruple.
Extract of Bark, 1 scruple.
Syrup of Ginger, enough to form the mass; to be divided in 24 pills, two of which are to be taken twice or three times a-day; washing them down with two table-spoonsful of the following mixture:
Take Compound Infusion of Gentian, 6 ounces.
Tincture of Bark,
——— of Cardamoms, of each, ½ ounce.
Make a mixture.

same person than at other times; usually accompanied with pains in the back and belly, somewhat like those of childbirth.

But the menstrual discharge may be too great as well as too small. When this happens, the patient becomes weak, the colour pale, the appetite and digestion are bad, to which œdematous swellings of the feet, dropsies, and consumptions often ensue. This frequently happens to women about the age of forty-five or fifty, and is very difficult to cure. It may proceed from a sedentary life; a full diet, consisting chiefly of salted, high seasoned, or acrid food; the use of spirituous liquors; excessive fatigue; relaxation; a dissolved state of the blood; violent passions of the mind, &c.

The treatment of this disease must be varied according to its cause. When it is occasioned by any error in the patient's regimen, an opposite course to that which induced the disorder must be pursued, and such medicines taken as have a tendency to restrain the flow, and counteract the morbid affections of the system whence it proceeds.

To restrain the flux, the patient should be kept quiet and easy both in body and mind. If it be very violent, she ought to lie in bed with her head low; to live upon a cool and slender diet, as veal or chicken broths with bread; and to drink decoctions of nettle-roots, or the greater comfrey, cooling aperients,* and refrigerants, as small and frequent doses of nitre;† cool acidulated liquors, as lemonade; light covering, and lying on a mattress instead of a bed. If these be not sufficient to stop the flux, stronger astringents‡ may be used, as Japan earth, alum, elixir of vitriol, the Peruvian bark, &c.: e. g. two drachms of alum and one of Japan earth may be pounded together, and divided into eight or nine doses, one of which may be taken three times a-day. Persons whose stomachs cannot bear the alum, may take two table-spoonsful of the tincture of roses three or four times a-day, to each dose of which ten drops of laudanum may be added. If these should fail, half a drachm of the Peruvian bark, in powder, with ten drops of the elixir of vitriol, may be taken, in a glass of red wine, four times a-day, or any of the forms prescribed below.

Fluor Albus.

The *uterine* discharge may offend in quality as well as in quantity. What is usually called the *fluor albus*, or whites, is a very common disease, and proves extremely hurtful to delicate women. This discharge, however, is not always white, but sometimes pale yellow, green, or of a blackish colour: sometimes it is sharp and

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* Take Epsom Salts, 2 ounces.
Warm Water, 6 ounces.
Compound Tincture of Senna, ½ ounce.
Syrup of Roses, 2 drachms.
Mix; and take two table-spoonsful for a dose.

† Take Infusion of Roses, 1½ ounce.
Nitre, 10 grains.
Occasionally adding, if necessary,
Tincture of Opium, 15 drops.
Make a draught, to be repeated every third hour.

‡ Take Gum Kino, 8 grains
Alum, in Powder, 12 grains.
Confection of Roses, enough.
Make a bolus, to be taken every third or fourth hour.

or

Take Purified Alum, 10 grains.
Extract of Bark, 12 grains.
Confection of Roses, enough.
Make a bolus to be taken as above.

corrosive, sometimes foul and fœtid, &c. It is attended with a pale complexion, pain in the back, loss of appetite, swelling of the feet, and other signs of debility. It generally proceeds from a relaxed state of the body, arising from indolence, the excessive use of tea, coffee, or other weak and watery diet, frequent childbearing, &c.

To remove this disease, the patient must take as much exercise as she can bear without fatigue. Her food should be solid and nourishing, but of easy digestion; and her drink rather generous, as red port or claret, mixed with Pyrmont, Bristol, or lime-water. Tea and coffee are to be avoided. I have often known strong broths have an exceeding good effect, and sometimes a milk diet alone will perform a cure. The patient ought not to lie too long in bed.

Independent of this regimen, the proper indications of cure to be observed appear to be, to increase the action of the absorbents of the uterus and vagina, by restoring the tone of the system; to correct the acrimony of the discharge; diminish its quantity; to alleviate other urgent and distressing symptoms; and to strengthen the system, when the disease is complicated with general debility and relaxation. With this view, the first of these intentions is to be effected by astringents, administered by the mouth; and likewise thrown up into the vagina and uterus in the form of injections.* Alum, sulphate of zinc (white vitriol,) gum kino, and catechu, are the astringents most employed as internal remedies; and these may be given either separately or combined with some tonic, as the bark, bitters, chalybeates, and the sulphuric acid as advised below,† with partial cold bathing, or spunging the loins and thighs with cold water.

In addition to astringents, it has been usual to employ in fluor albus such stimulating medicines as most commonly determine to the urinary passages, which, from their vicinity to the uterus, have often been found to afford considerable relief. On this occasion, turpentine and other balsams have been used.‡ Gentle emetics are also supposed to be of singular benefit in this complaint. When there are excoriations externally or internally, the solution of the acetate of lead, sufficiently diluted with water, may be employed as a wash.

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* Take Decoction of Oak Bark, 1 pint.
Alum, 1 drachm.
Make an injection.

or

Take Sulphate of Zinc, 1 drachm.
Super Acetate of Lead, 10 grains.
Distilled Water, 1 pint.
Make an injection.

or

Take of Bruised Oak Gall, ½ ounce.
Hot Water, 2 pints.
Make an injection.

or

Take Strong Infusion of Green Tea,
Make an injection.

† Take Powdered Alum, 2 drachms.
——— Nutmeg, ½ drachm.
——— Catechu, 1 drachm.
——— Peruvian Bark, ½ oz.
Syrup of Ginger, a sufficiency to form an electuary, of which the bulk of a small walnut may be taken three times a-day.

‡ Take Balsam of Copaiba, or Canada Turpentine, 2 drachms.
The Yolk of an Egg.
Let them be well mixed together in a marble mortar, and gradually add,
Water, 7 ounces.
Clarified Honey, ½ ounce.
Tincture of Spanish Fly, 1 drm.
Mix, and take two dessert-spoonsful thrice a-day.

Difficult Menstruation. *(Dymenorrhœa.)*

Besides the other deviations from the usual course of nature, alluded to under this head, a third sometimes occurs, wherein menstruation, although not entirely suppressed, is nevertheless somewhat difficult, and accompanied with severe pains in the back, loins, and bottom of the belly. This disease is supposed to be owing to a weak action of the vessels of the uterus, or spasm of its extreme vessels; and is to be removed by chalybeates, warm bathing, both topical and general, with the use of opiates, which should be employed as soon as the symptoms that denote its approach are apparent. The extract of stramonium, in half grain doses, will often prove serviceable when other anodynes fail.

Cessation of the Menses. (*Commonly called the "Turn of Life."*)

That period of life at which the *menses* cease to flow is likewise very critical to the sex. The stoppage of any customary evacuation, however small, is sufficient to disorder the whole frame, and often to destroy life itself. Hence it comes to pass, that so many women either fall into chronic disorders, or die about this time. Such of them, however, as survive it, without contracting any chronic disease, often become more healthy and hardy than they were before, and enjoy strength and vigour to a very great age.

If the *menses* cease all of a sudden, which is seldom the case, in women of a full habit, they ought to abate somewhat of their usual quantity of food, especially of the more nourishing kind, as flesh, eggs, &c. They ought likewise to take sufficient exercise, and to keep the body open. This may be done by taking, once or twice a week, a little rhubarb, or an infusion of hiera picra in wine or brandy.

Should any scirrhous or cancerous affection of the uterus take place on a stoppage of the menstrual flux, as sometimes happens, all that can be done in such cases is to have recourse to palliatives, such as opium, henbane, and hemlock, in the manner pointed out in the diseases wherein these medicines are indicated.

It often happens that women of a gross habit, at this period of life, have ulcerous sores break out about their ankles, or in other parts of the body. Such ulcers ought to be considered as critical, and should either be suffered to continue open or have artificial drains substituted in their stead. Women who will have such sores dried up are often soon after carried off by acute diseases, or fall into those of a chronic nature.

CHAP. VII.

DISEASES OF PREGNANCY.

Though pregnancy is not a disease, yet it is a state often attended with a variety of complaints which merit attention, and which sometimes require the assistance of medicine. Some women, indeed, are more healthy during their pregnancy than at any

other time; but this is by no means generally the case; most of them being frequently indisposed during the whole or greater part of the time of their gestation. Few fatal diseases, however, happen, during this period; and hardly any except abortion that can be called dangerous.

During a state of pregnancy, three different stages evidently exist, each of which has a distinct set of symptoms; nor need we be surprised, when we come to consider the alteration the constitution suffers as a consequence of impregnation, at the many complaints and irregularities which then arise. The first state of pregnancy is usually attended with a suppression of the menses, accompanied with frequent nausea and vomiting, particularly in the morning, heartburn, indigestion, peculiar longing, head-ache, giddiness, tooth-ache, and sometimes a slight cough: the breasts become enlarged, shooting pains extend through them, and the circle round the nipple alters to a dark brown colour. A feverish tendency, with debility, emaciation, irritability, and peevishness of temper, and a total alteration of the countenance, every feature of which becomes much sharpened, also frequently occur. During the whole or greater part of the second stage of gestation, as well as the first, the vomiting will continue with some women; this, however, does not usually happen.

Partial suppressions of urine, with a frequent inclination to void it; itching about the external parts of generation, costiveness, inclination without ability to go to stool, and the piles, are what pregnant women are chiefly incommoded by during the second stage.

Quickening.—Most women quicken about the sixteenth week after conception, at which time the mother becomes sensible of the slightest efforts of the child; and besides the complaints just enumerated, she will then be liable to sudden faintings, and slight hysteric affections.* During the last three months, or third stage of pregnancy, general uneasiness, restlessness (particularly by night,) costiveness, puffy swellings of the feet, ancles, and private parts, cramps in the legs and thighs, difficulty of retaining the urine for any length of time, varicose swellings of the veins of the belly and lower extremities, and the piles, are the affections which usually prove most troublesome. In delicate and weak women, of an irritable habit, convulsive fits sometimes arise, which are ever to be regarded in a dangerous point of view.

Nausea and Vomiting.—These symptoms most frequently arise immediately on first getting out of bed in the morning; under such circumstances, therefore, it is advisable for the patient never to rise until she has taken a dish of tea or coffee, or whatever else she may have been accustomed to substitute for her breakfast.

* According to the opinion most commonly received, quickening, thus termed, has been generally understood to commence at the time when particular sensations are perceived by the mother, supposed to be occasioned by the first motion of the child. The most usual time of feeling any such symptoms is about the latter end of the fourth or beginning of the fifth month of pregnancy: at this period the uterus filling up the pelvis slips out and rises above the rim; and from that sudden transition, women of a delicate constitution and irritable fibre are apt to faint, more particularly so if in an erect position. Ed.

Should the vomiting at any time become so severe as to threaten abortion from the violence of the straining, it may then be advisable to direct two or three table-spoonsful of the saline medicine to be taken every now and then in such a manner as the effervescence shall ensue after it is swallowed. The patient also should keep the body open with some gentle laxative. Should these means not succeed, about six ounces of blood may be drawn from the arm, and, if necessary, repeated in a week's time. The sickness in such cases depends on irritation, and is only to be removed with certainty by bleeding.

To abate excessive vomiting local applications have been recommended. For example, a piece of folded linen cloth, moistened with the tincture of opium, may be kept constantly applied to the stomach; to which, probably, the addition of a small portion of ether might increase its effect. It sometimes happens that vomiting continues incessantly for many days, accompanied with great prostration of strength, and constant thirst, with, at the same time, an utter impossibility of retaining any thing on the stomach. Under these circumstances the application of leeches to the pit of the stomach, and a constant attention to swallow nothing that can irritate, allowing the patient asses' milk, and that by a single spoonful at a time, have afforded relief. If much nausea should prevail without the possibility of throwing up, fourteen or fifteen grains of the powder of ipecacuanha may then be given, experience having proved that gentle emetics may be safely administered to pregnant women.

Heartburn.—When a pregnant woman is incommoded by heartburn, (which commonly arises from acidity in the stomach,) half a drachm of magnesia may be taken morning and evening; and, if this fail to obviate it, the absorbent mixture advised below* may be used, which Dr. Sims says he has found the most efficacious of all remedies for the removal of this distressing complaint.

Head-ache with Plethora.—When either drowsiness, a sense of fulness of the vessels of the head, or head-ache, prove troublesome to pregnant women, taking away a few ounces of blood from the arm in robust women will most likely prove serviceable. In women of a weak irritable habit the application of a leech or two to each temple will be more advisable than bleeding from the arm, where the head-ache proves obstinate, and resists the other means employed.

Costiveness, Piles, &c.—Costiveness, partial suppressions of urine, and the piles, which attend on the second stage of pregnancy, are occasioned by the great pressure of the uterus on the rectum and bladder. The first and last of these symptoms are to be obviated by a daily use of some gentle laxative; such as a solution of manna, or the subjoined electuary.† Pills com-

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* Take Magnesia, 1 drachm.
Pure Water, 5 ounces.
Spirit of Cinnamon, 3 drachms.
Solution of Ammonia, 1 drachm.
Make a mixture, of which two or three table-spoonsful may be taken occasionally.

† Take Confection of Senna, 1½ ounce.
Cream of Tartar, ½ ounce.
The size of a nutmeg to be taken occasionally.

posed of aloes are highly improper, as being of a nature too stimulating, and very apt to occasion hemorrhages, and bring on the piles. When the piles are troublesome, the best applications, when they can be applied, are leeches and cold saturnine lotions, as a solution of the superacetate of lead. To allay the irritation, ten grains of the superacetate of lead, dissolved in four ounces of rose-water, to which, if necessary, a little of the vinous tincture of opium may be added, form a good lotion.

Tooth-ache.—To relieve the tooth-ache a few drops of the oil of cloves, cajeput, juniper, or any other essential oil, applied to the affected tooth, will often remove it for the time.

Longings.—It is always desirable to gratify the peculiar longings of pregnant women, otherwise they are apt to miscarry from the anxiety these occasion, when not indulged in them. But that the child in the womb can be marked by any depraved appetite of the mother, or be mutilated by any disagreeable sight that may be presented to her, cannot readily be admitted.

Hysterics.—Should sudden fainting, or any other hysterical affection, arise, little more will be necessary than to expose the patient to a free open air, to place her in a horizontal position, and to give her a glass of cold water, with a few drops of hartshorn, or a little wine sufficiently diluted.

Diarrhœa.—Diarrhœa during pregnancy should be treated just as at any other time; and after the stomach and intestines are cleared astringents may be used, if there be no great degree of fever present; but should there be fever, that must be attended to and first removed.

Suppression of Urine.—To relieve the suppression of urine that frequently takes place in the advanced state of pregnancy, besides making use of emollient fomentations, clysters, and gentle purgatives, such as castor-oil, &c., the patient, at the same time, drinking plentifully of diluent liquors, surgical aid will be necessary to draw it off morning and evening by means of a catheter.

Troublesome Itchings.—When these sensations arise about the parts of generation during the pregnant state, it will be proper to keep the body perfectly free with some cooling laxative, and to wash the parts three or four times a day with a solution of lead, or the diluted solution of the acetate of lead. If much irritation accompany this itching, leeches may be applied to the place.

Puffy Swellings of the feet, ankles, and private parts, which are apt to arise towards the end of pregnancy, are occasioned by the pressure of the womb on the returning vessels, which prevents the blood being carried back to the heart. Gravid women are usually free from these complaints in the morning, but towards night they frequently suffer much from them. Slight scarifications from the edge of a lancet, to discharge the stagnated fluid, with the af-

ter-application of flannels wrung out in a warm effusion of emollient herbs, have been employed in cases of great distention. In general, however, it will only be necessary that the patient does not keep her feet in a pendent position for any length of time.

Cramps of the Legs and Thighs are to be relieved by rubbing the parts with cold vinegar; camphor dissolved in oil, or other liniments, the person wearing stockings in bed. At an advanced period of pregnancy they are only to be relieved by labour removing the cause. Proper doses of ether and tincture of opium, with the means advised in hysterical affections, will afford the greatest benefit where the stomach is affected with spasms. In such cases the patient will do well to avoid all kinds of food that are apt to prove flatulent and hard of digestion, and keep the body perfectly open.

Restlessness and Want of Sleep prove troublesome complaints towards the latter end of pregnancy, obliging the patient to rise frequently throughout the course of the night, in order to expose herself to the influence of cool air. In cases of this nature nothing affords relief so effectually as small bleedings, with the occasional use of some cooling laxative medicine. Opiates, in such conditions, are never attended with any advantage.

Varicose Veins.—Considerable enlargement and distention of the veins of the legs, thighs, and abdomen often take place to an alarming extent in the last state of pregnancy. But, as no bad consequences have been observed to attend this state, the only thing necessary to be done is to empty the vascular system by moderate bleeding, gentle purging, and a spare diet. Should, however, the vein of any particular part become so distended as to prove troublesome, it may be advisable to apply a bandage of a moderate tightness, so as to give the necessary support to it.

Jaundice.—Pregnant women, in some instances, are afflicted with a pain in the side, excessive sickness at the stomach, and retchings, the skin assuming a deep yellow tint; under which circumstances alone the complaint proves distressing; and it is usually occasioned by the formation of one or more gall-stones, and the obstructions they oppose to the usual and regular passage of the bile. The most efficient means to relieve the patient from this degree of the complaint are, bleeding, fomentations of the painful part, and large doses of opium, with such laxatives as shall counteract the constipating effects of the latter. When jaundice or any other bilious effects prevail during pregnancy, in consequence of the pressure kept up by the womb on the gall-bladder or ducts, it is to be obviated by keeping the body open with some gentle laxatives, as pills composed of jalap and rhubarb.

Incontinency of Urine is to be removed only by delivery, but may admit of being partially relieved by the horizontal posture. The bad effects of this very disagreeable complaint, may be prevented by a scrupulous attention to cleanliness, and the use of a

thick compress of linen, or a sponge of considerable size, properly fastened.

Over-distention of the Skin.—The skin of the abdomen, in the latter months of pregnancy, will sometimes become cracked and sore. In this case nothing is more effectual than the frequent use of warm oil by friction; to which a little camphor may be added to give it somewhat of a medicated appearance.

False Pains, resembling those attendant on actual labour, are apt to come on at a late period of pregnancy, often occasioning unnecessary alarm. Confinement in a horizontal position; bleeding, if of a full habit; laxative medicines if costive, and giving small and frequent doses of some opiate until the patient finds ease, will, in such cases, be necessary.

CHAP. VIII.

CONVULSIONS.

Convulsions may take place either during pregnancy or labour. These are of different kinds, requiring opposite treatment. One species is a consequence of great exhaustion from a tedious labour, excessive fatigue, and profuse hemorrhage; which makes its attack without much previous warning, and generally alternates with faintings, or great depression of strength, and debility: the muscles about the face and chest are chiefly affected, and the pulse is small, frequent, and compressible, the face pale, the eyes sunk, the extremities cold. The fits succeed each other rapidly, and very soon terminate in a fatal syncope.* In all cases of this nature, the first object should be directed towards restraining the hemorrhage if present, or preventing any kind of exertion, thus husbanding the remaining strength, or recruiting it by cordials. In conjunction with ether and camphor, opiates will be of considerable service. Delivery is usually necessary.

The other species of convulsions, which are those of an hysterical nature, are more common during gestation than during parturition. In this case it may only be necessary to add to what has been already said relative to hysterics (p. 390.), that if they do not speedily yield to antispasmodics, bleeding had better be resorted to: should this fail, the woman, if possible, should be delivered.

Puerperal convulsions seldom happen before the sixth month, but may occur at any time between this period and the completion of labour. They may arise as the first symptom of labour, or after delivery. This species of convulsion depends on the state of the uterus, and has been remarked to occur more frequently during the first pregnancy than in any subsequent one, particularly where the woman is unmarried.

To prevent the occurrence of puerperal convulsions, as they are

* It was this species of convulsion, apparently, that destroyed Her Royal Highness the Princess Charlotte of Wales.

in every instance to be considered highly dangerous, particularly at an advanced period of pregnancy, it is advisable in women of robust and plethoric habits to bleed frequently during the progress of pregnancy, by abstracting a sufficient quantity of blood at different periods; taking care, at the same time, and particularly near the termination of pregnancy, to keep the body open by cooling purgatives. In women of an unstable constitution, all exciting causes should be carefully avoided, and the habit be strengthened as much as possible, and by that means rendered less susceptible of disagreeable impressions.

CHAP. IX.

ABORTION, &c.

Every pregnant woman is more or less in danger of abortion. This should be guarded against with the greatest care, as it not only weakens the constitution but renders the woman liable to the same misfortune afterwards.* Abortion may happen at any period of pregnancy, but it is most common in the second or third month. Sometimes, however, it happens in the fourth or fifth. If it happens within the first month, it is usually called a false conception; if after the seventh month, the child may often be kept alive by proper care.

The common causes of abortion are, the death of the child; weakness or relaxation of the mother; great evacuations; violent exercise; raising great weights; reaching too high; jumping, or stepping from an eminence; vomiting; coughing; convulsion-fits; blows on the belly; falls; fevers; disagreeable smells; excess of blood; indolence; high living, or the contrary; violent passions or affections of the mind, as fear, grief, &c.

The signs of approaching abortion are, pain in the loins, or about the bottom of the belly; a dull heavy pain in the inside of the thighs; a slight degree of coldness, or shivering; sickness; palpitation of the heart; the breasts become flat and soft; the belly falls; and there is a discharge of blood or watery humours from the womb.

To prevent abortion, we would advise women of a weak or relaxed habit to use solid food, avoiding great quantities of tea, and other weak and watery liquors; to rise early and go soon to bed; to shun damp houses; to take frequent exercise in the open air, but to avoid fatigue; and never to go abroad in damp foggy weather, if they can help it. Women of a full habit ought to use a spare diet, avoiding strong liquors, and every thing that may tend to heat the body, or increase the quantity of blood. Their diet should be of an opening nature, consisting principally of vegetable substances. Every woman with child ought to be kept cheerful and

easy in her mind. Her appetites, even though depraved, ought to be indulged as far as prudence will permit.

When any signs of abortion appear, the woman ought to be laid in bed on a mattress, with her head low. She should be kept quiet, and her mind soothed and comforted. She ought not to be kept too hot, nor to take any thing of a heating nature. Her food should consist of broths, rice and milk, jellies, gruels made of oatmeal, and the like, all of which ought to be taken cold.

If she be able to bear it, she should lose at least half a pound of blood from the arm. Her drink ought to be barley-water sharpened with the juice of lemon; or, she may take half a drachm of powdered nitre, in a cup of water-gruel, every five or six hours. If the woman be seized with a violent looseness, she ought to drink the decoction of calcined hartshorn prepared. If she be affected with vomiting, let her take frequently two table-spoonsful of the saline mixture. In general, opiates are of service; but they should always be given with caution.

Sanguine robust women, who are liable to miscarry at a certain time of pregnancy, ought always to be bled a few days before that period arrives. By this means, and observing the regimen above prescribed, they might often escape that misfortune.

Though we recommend due care for preventing abortion, we would not be understood as restraining pregnant women from their usual exercise. This would generally operate the quite contrary way. Want of exercise not only relaxes the body, but induces a plethora, or too great a fulness of the vessels, which are the two principal causes of abortion. There are, however, some women of so delicate a texture, that it is necessary for them to avoid almost every kind of exercise during the whole period of pregnancy.

Where abortion cannot be prevented, the next indication is to conduct the patient safely through the process, by directing our immediate attention to the hemorrhage; to check which, bleeding is resorted to by some practitioners; but, unless the vessels be above their natural force and strength of action, it is not likely to be of any service. Astringent injections, composed of alum, oak bark, or sulphate of zinc, and cold applications to the loins, &c., are often employed in floodings; and where the hemorrhage is slight, these immediately will prove beneficial; but in floodings without any remission, they do not appear calculated to afford much relief. In such cases it will be best to trust to the formation of a coagulum: enjoining rest, giving an anodyne at bed-time, and keeping the bowels open by some gentle aperient. But, where these means have been pursued without effect, and the woman becomes exposed to imminent danger from great loss of strength, the most powerful astringents must be employed; such as the sulphate of zinc* and superacetate of lead†; of the last, one, two, or three grains may be given, repeating the dose every three or four hours according to the urgency of the case. As soon, however,

as the hemorrhage has stopped, give a dose of castor-oil in order to prevent any bad effects from the action of these remedies on the coats of the stomach and intestines. The application of cloths dipped in cold water to the back and external parts will have a much better effect than internal astringents, consequently ought never to be neglected. The introduction of a piece of smooth ice into the vagina has often a very speedy effect in arresting the hemorrhage. A snow-ball wrapt in a bit of soft linen will have the same effect; but neither of these should be continued so long as to cause pain.

The most effectual means, then, to be resorted to for relieving the hemorrhage attendant on abortions are: if the pulse be full, hard, and frequent, bleeding is to be resorted to; if not, the foxglove is to be trusted to, either in the form of pill, tincture, or infusion: the application of cold to the thighs and pubes; admitting a free circulation of cool air in the patient's bed-chamber; keeping the heat of the body at a low temperature; absolute rest in a horizontal position, and which must be continued during the whole process, however long it may be; cold acidulated liquors for ordinary drink; light food taken in small quantities at a time; carefully abstaining from every thing stimulant, and plugging up the vagina, &c. &c.

Sometimes the hemorrhage is kept up by some portion of the ovum remaining partly within and partly without the uterus; when, should circumstances demand it, this should be removed by careful manual interference with a pair of armed forceps.

For some days after abortion the patient should be confined to bed, as getting up too soon is apt to produce a debilitating discharge. Women disposed to abort should the more sedulously avoid the exciting causes of abortion at those dates of utero-gestation when it is most apt to take place.

CHAP. X.

MANAGEMENT OF CHILDBED-WOMEN.

Many diseases proceed from the want of due care in child-bed; and the more hardy part of the sex are most apt to despise the necessary precautions in this state. This is peculiarly the case with young wives. They think, when the labour-pains are ended, the danger is over; but in truth it may only then be said to be begun. Nature, if left to herself, will seldom fail to expel the *fœtus;* but proper care and management are certainly necessary for the recovery of the mother. No doubt, mischief may be done by too much as well as by too little care. Hence females who have the greatest number of attendants in child-bed generally recover worst. But this is not peculiar to the state of child-bed. Excessive care always defeats its own intention, and is generally more dangerous than none at all.*

* Though the management of women in child-bed has been practised as an employment since the earliest accounts of time, yet it is still in most countries on a very bad

During actual labour, nothing of a heating nature ought to be given. The woman may now and then take a little panado, and her drink ought to be toast and water, or thin groat-gruel. Spirits, wines, cordial-waters, and other things which are given with a view to strengthen the mother, and promote the birth, for the most part tend only to increase the fever, inflame the womb, and retard the labour. Besides, they endanger the woman afterwards, as they occasion violent and mortal hemorrhages, or dispose her to eruptive and other fevers.

Parturition.

Is that natural process which, at the expiration of forty weeks from conception, is matured, and by which the womb detaches and expels its contents, and returns nearly to the same condition in which it was previous to its impregnation.

Classification of Labours, &c.

The division of labours, originally made by Hippocrates into *natural* and *preternatural*, is sufficiently comprehensive, whilst it forcibly recommends itself by its simplicity and perspicuity.

Natural labour, of which we shall only treat here, supposes four things: 1. That the vertex presents. 2. That there be sufficient room in the pelvis to admit of the ready descent of the child in that direction which permits the occiput or back part of the head to emerge under the arch of the pubis. 3. That there be parturient energy adequate to the expulsion of the contents of the uterus, without manual interference; and without danger, either to the mother or child: and, 4. That the process of parturition be completed within a moderate time.

Stages of Labour.

Certain occurrences take place during the progress of parturition which may be managed under three divisions or stages; the *first* comprehends all that may occur before the complete dilatation of the os uteri; the *second* includes all that takes place between the developement of the os uteri and the expulsion of the child; the *third* embraces every thing connected with the detachment and extension of the placenta and its adherent membranes.

Symptoms preceding Labour.

For several days before the actual existence of labour arrives,

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footing. Few women think of following this employment till they are reduced to the necessity of doing it for bread. Hence not one in a hundred of them have any education, or proper knowledge of their business. It is true, that nature, if left to herself, will generally expel the *fœtus*; but it is equally true, that most women, in child-bed, require to be managed with skill and attention, and that they are often hurt by the superstitious prejudices of ignorant and officious midwives. The mischief done in this way is much greater than is generally imagined; most of which might be prevented by allowing no women to practise midwifery but such as are properly qualified. Were due attention paid to this, it would not only be the means of saving many lives, but would prevent the necessity of employing men in this indelicate and disagreeable branch of medicine, which is, on many accounts, more proper for the other sex.

there are often certain premonitory symptoms, which, by women who have borne children, are viewed as precursors of that eventful hour which many of them so much dread. Among these are:

1. *Restlessness*, particularly at night, very frequently precedes parturition for days and weeks, and is rarely to be considered as bearing unfavourably in labour.

2. *Subsidence of the womb and abdomen* is not an unusual monitor of the approach of suffering. It may be viewed in a favourable light, inasmuch as it indicates room in the pelvis.

3. *Glairy mucuous secretion* from the os uteri and vagina, popularly termed *shew*, sometimes occurs for days before the more active symptoms of labour. It is often streaked with blood, and tends to lubricate the parts concerned in parturition.

4. *Irritability of the bladder and rectum*, demanding their frequent relief, is another occasional precursor of labour.

Symptoms accompanying Labour.

Owing to the resistance which the womb encounters during its contractile efforts, *pain* follows every such contraction; but the pain attendant on parturition differs very materially in its nature, and in its influence in the uterus. These paroxysms of pain are either *intestinal* or *uterine*.

Paroxysms of intestinal pain, or such as are termed false or spurious, may be distinguished from genuine labour-pains by being unconnected with uterine contraction; by attacking different parts of the abdomen; and by recurring irregularly. These pains usually originate in some source of intestinal irritation, and may almost always be removed by emptying the bowels, and subsequently exhibiting an opiate. By the observant practitioner, should one be present, they cannot be confounded with pain in the bowels.

The true or uterine pains are either dilating or expulsive.

Dilating Pains, or, as they are popularly termed, *grinding* pains, result from contraction of the womb. They are principally confined to the back, and occur in the earliest stage of labour, and are often peculiarly distressing to the patient, who expresses herself by restlessness, despondency, and moaning. They often continue a long time without the intermissions being free from uneasiness, and appear almost exclusively to dilate the mouth of the womb, having little influence over the fundus of the uterus. It is during the existence of these dilating pains that cold shiverings most commonly come on, and may be relieved by avoiding spiced or fermented fluid, and by administering any simple warm diluents.

When the mouth of the womb is considerably dilated, expulsive pains, sometimes termed *forcing* or bearing down pains, commence in the loins, and gradually proceed round the abdomen, till they meet at the region of the pubes, and dart down the *labia pudendi* and thighs. If the accoucheur's hand be placed on the flaccid sides of the abdomen, previous to the accession of a paroxysm of expulsive pain, before the woman is aware of it, the womb may be felt contracting to a hard, tense, incompressible tumour. These pains observe regular intervals of ease, which become shorter, whilst the pains, in an inverse ratio, increase in their duration and

severity; and now it is that the abdominal muscles and diaphragm afford their assistance.

During each propulsive effort a larger portion of the membranes, distended with the liquor of the amnion, is forced through the mouth of the womb, performing to it, and all the parts through which the child is to pass, the office of an easy but powerful wedge. With these pains there is often a frequent disposition to empty the rectum; and sometimes this inclination is so harassing as to justify the administration of a small clyster, with half a drachm of the tincture of opium.

Vomiting is a common attendant on uterine pain, and is beneficial by rejecting food, which, from its quality or quantity, may be a source of irritation to the stomach. It principally occurs during the dilating pains, and unquestionably assists in the relaxation and dilatation of the mouth of the womb.

In a protracted labour, when vomiting continues or returns, after the mouth of the womb is fully dilated, with abdominal tension and pain, without uterine contractions, and with ejection from the stomach of fluid like dark coffee-grounds, with foul tongue, and rapid and hard pulse, it generally must be taken as indicative of inflammatory action, and as requiring immediate and most efficient interference. Besides these attendants on parturition, the pulse usually becomes quickened and full; the countenance florid; the whole surface of the body covered with profuse perspiration; and the lower extremities cramped.

The Process of Natural Labour.

The process of natural labour, to use the words of a modern writer, is at once so simple and beautiful, that it cannot fail to excite the admiration of those who look beneath the surface of the operations of nature. Without repeating what has already been advanced respecting the precursory and accompanying symptoms of delivery, we shall merely recall to the mind those statements, as constituting a part of the history of this process. The symptoms which announce the commencement of natural labour have continued for an indefinite time; pains in the loins, darting through the pelvis, with an appearance of *shew*, indicate the approach of unequivocal evidences of this stage of parturition. From time to time these pains are of the *dilating* kind and on an examination *per vaginam*, will be found to be diminishing the thickness of the cervix uteri more than to be opening the mouth of the womb. When the neck of the womb becomes reduced to the thickness of the other parts of that organ, it begins to open, and as soon as it can admit the extention of any part of the membranes distended with the liquor of the amnion, the pains rather assume the *expulsive* character, and there will be a sensible bearing down of the whole uterine tumour. Successive paroxysms of pain dilate the mouth of the womb more and more, whilst the protruded membranes, distended like a tense bladder, fill up the opening, and perform the office of an inimitable wedge, till the womb and the entrance to it form one continuous passage. Soon after this the membranes generally burst during a strong pain, having previously

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empty itself gradually, some untoward and alarming circumstance may occur in this stage of parturition. Generally from twenty to thirty minutes elapse between the birth and the expulsion of the placenta. The woman then complains of a slight pain in her back or abdomen, and this secondary contraction of the uterus detaches the placenta, although it but rarely expels it from the passages; whence, however, it may usually be easily removed by coiling the funis round two of the fingers of the right hand, whilst guided by the cord, the thumb and index finger of the left hand should be passed up to its insertion into the placenta, which, if it can be felt, is a pretty certain indication of the detachment of the whole mass from the sides of the womb. By this means, also, the navel-string is prevented from breaking off, and a firmer hold of the placenta is obtained.

To prevent the possibility of inverting the womb, or from its occurrence without knowing it, the placenta should be permitted to slip by the fingers of the left hand into the vagina; and the withdrawing of the placental mass should always be in the axis of the brim, cavity, and outlet of the pelvis, as it passes those parts. The hand of the accoucheur should afterwards be laid on the abdomen, to ascertain that the uterus is well contracted: and the pulse should be felt, lest internal hemorrhage redistending the uterus may be going on to the endangering of the patient's life.

It is of great importance that a bandage be passed over the region of the womb: this being done, and a well-aired napkin applied to the labia pudendi, or external parts, some mild and cool nourishment may be given to the woman, who, after having been suffered to remain quiet for about half an hour, should have her soiled linen withdrawn, and, without being raised from her horizontal posture on any pretence, may be drawn up to the head of the bed; whilst she herself remains perfectly passive, without taking any part in this operation, lest hemorrhage or prolapsus of the womb should follow.

Tedious Labours.—When the labour proves tedious and difficult, to prevent inflammations, it will be proper to bleed. An emollient clyster ought likewise frequently to be administered, and the patient should sit over the steams of warm water. The passage ought to be gently rubbed with a little soft *pomatum*, or fresh butter, and cloths wrung out of warm water applied over the belly. If nature seems to sink, and the woman is greatly exhausted with fatigue, a draught of generous wine, or some other cordial, may be given, but not otherwise. These directions are sufficient in natural labours; and in all preternatural cases, a skilful surgeon, or man-midwife, ought to be called as soon as possible.

Treatment after Delivery.—After delivery, the woman ought to be kept as quiet and easy as possible.* Her food should be

* We cannot help taking notice of that ridiculous custom which still prevails in some parts of the country, of collecting a number of women together upon such occasions. These, instead of being useful, serve only to crowd the house, and obstruct the necessary attendants. Besides, they hurt the patient with their noise; and often, by their untimely and impertinent advice, do much mischief.

light and thin, as gruel, panado, &c. and her drink weak and diluting. To this rule, however, there are many exceptions. I have known several women, whose spirits could not be supported in child-bed without solid food and generous liquors; to such, a glass of wine and a bit of chicken must be allowed.

Sometimes an excessive hemorrhage or flooding happens after delivery. In this case the patient should be laid with her head low, kept cool, and be in all respects treated as for an excessive flow of the *menses*. If the flooding prove violent, linen cloths, which have been wrung out of a mixture of equal parts of vinegar and water, or red wine, should be applied to the belly, the loins, and the thigh: these must be changed as they grow dry, and may be discontinued as soon as the flooding abates.

In a violent flooding after delivery, I have seen very good effects from the following mixture:—Take of penny-royal water, simple cinnamon-water, and syrup of poppies, each two ounces, elixir of vitriol, a drachm. Mix, and take two table-spoonsful every two hours, or oftener if necessary.

After-Pains.—If there be violent pains after delivery, the patient ought to drink plentifully of warm diluting liquors, as groat-gruel, or tea with a little saffron in it; and to take small broths, with caraway-seeds, or a bit of orange-peel in them; an ounce of the oil of sweet almonds may likewise be frequently taken in a cup of any of the above liquors; and if the patient be restless, a spoonful of the syrup of poppies may now and then be mixed with a cup of her drink.* If she be hot or feverish, one of the following powders may be taken in a cup of her usual drink every five or six hours.

Take of crabs' claws prepared, half an ounce, purified nitre two drachms, saffron powdered, half a drachm; rub them together in a mortar, and divide the whole into eight or nine doses. And if she be low-spirited, or troubled with hysterical complaints, she ought to take frequently twelve or fifteen drops of the tincture of asafœtida in a cup of penny-royal tea.

Costiveness.—Costiveness is apt to prevail after delivery, and should always be removed by a laxative clyster, or some gentle purgative, such as neutral salt and manna, or about an ounce of castor oil.

Inflammation of the Womb.—An inflammation of the womb is a dangerous and not unfrequent disease after delivery. It is known by pains in the lower part of the belly, which are greatly increased upon touching; by the tension or tightness of the parts; great weakness; change of countenance, a constant fever, with a weak and hard pulse; a slight *delirium*, or raving; sometimes incessant vomiting; a hiccup; a discharge of reddish, stinking, sharp water from the wound; an inclination to go frequently to stool; a heat, and sometimes total suppression of urine.

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* Take Cinnamon Water, 1 ounce. Tincture of Castor, ½ drachm.
Tincture of Opium, 30 to 40 drops. Syrup of Violets, 2 drachms.
Make a draught, to be taken at bed-time.

This must be treated like other inflammatory disorders, by bleeding and plentiful dilution. The drink may be thin gruel or barley-water; in a cup of which half a drachm of nitre may be dissolved and taken three or four times a-day. Clysters of warm milk and water must be frequently administered: and the belly should be fomented by cloths wrung out of warm water, or by applying bladders filled with warm milk and water to it.

Suppression of the Lochia.—A suppression of the *lochia* or usual discharges after delivery, and the milk-fever, must be treated nearly in the same manner as an inflammation of the womb. In all these cases, the safest course is plentiful dilution, gentle evacuations, and fomentations of the parts affected. In the milk-fever, the breasts may be embrocated with a little warm linseed-oil, or the leaves of red cabbage may be applied to them. The child should be often put to the breast, or it should be drawn by some other person.

Nothing would tend more to prevent the milk-fever than putting the child early to the breast. The custom of not allowing children to suck for the first two or three days, is contrary to Nature and common sense, and is very hurtful both to the mother and child. Every mother who has milk in her breasts ought either to suckle her own child or to have her breasts frequently drawn, at least for the first month. This would prevent many of the diseases which prove fatal to women in child-bed.

Inflammation of the Breast.—When an inflammation happens in the breast, attended with redness, hardness, and other symptoms of suppuration, the safest application is a poultice of bread and milk, softened with oil or fresh butter. This may be renewed twice a-day, till the tumour be either discussed or brought to suppuration. The use of repellents, in this case, is very dangerous; they often occasion fevers, and sometimes cancers; whereas a suppuration is seldom attended with any danger, and has often the most salutary effects.

Fretted or Chapped Nipples.—When the nipples are fretted or chapped, they may be anointed with a mixture of oil and bees' wax, or a little powdered gum-arabic may be sprinkled on them. I have seen Hungary-water applied to the nipples have a very good effect. Should the complaint prove obstinate, a cooling purge may be given, which generally removes it.

Miliary Fever.—The miliary fever is a disease incident to women in child-bed; but as it has been treated of already, we shall take no farther notice of it. The celebrated Hoffman observes, that this fever of child-bed women might generally be prevented, if they, during their pregnancy, were regular in their diet, used moderate exercise, took now and then a gentle laxative of manna, rhubarb, or cream of tartar; not forgetting to bleed in the first months, and to avoid all sharp air. When the labour is coming on it is not to be hastened with forcing medicines, which inflame the blood and humours, or put them into unnatural commotions. Care should be taken, after the birth, that the natural excretions pro-

ceed regularly; and if the pulse be quick, a little nitrous powder, or some other cooling medicines, should be administered.

Puerperal Fever.—The most fatal disorder consequent upon delivery is the *puerperal*, or child-bed fever. It generally makes its attack upon the second or third day after delivery. Sometimes, indeed, it comes on sooner, and at other times, though rarely, it does not appear before the fifth or sixth day.

It begins, like most other fevers, with a cold or shivering fit, which is succeeded by restlessness, pain of the head, great sickness at the stomach, and bilious vomiting. The pulse is generally quick, the tongue dry, and there is a remarkable depression of spirits and loss of strength. A great pain is usually felt in the back, hips, and region of the womb; a sudden change in the quantity or quality of the *lochia* also takes place; and the patient is frequently troubled with a *tenesmus*, or constant inclination to go to stool. The urine, which is very high coloured, is discharged in small quantity, and generally with pain. The belly sometimes swells to a considerable bulk, and becomes susceptible of pain from the slightest touch. When the fever has continued for a few days, the symptoms of inflammation usually subside, and the disease acquires a more putrid form. At this period, if not sooner, a bilious or putrid looseness, of an obstinate and dangerous nature, comes on, and accompanies the disease through all its future progress.

There is not any disease that requires to be treated with more skill and attention than this; consequently the best assistance ought always to be obtained as soon as possible. In women of plethoric constitutions, bleeding will generally be proper at the beginning; it ought, however, to be used with caution, and not to be repeated, unless where the signs of inflammation rise high; in which case it will also be necessary to apply a blistering-plaster to the region of the womb.

During the rigour, or cold fit, proper means should be used to abate its violence and shorten its duration. For this purpose, the patient may drink freely of warm diluting liquors, and, if low, may take now and then a cup of wine-whey; warm applications to the extremities, as heated bricks, bottles or bladders filled with warm water, and such like, may also be used with advantage.

Emollient clysters of milk and water, or of chicken water, ought to be frequently administered through the course of the disease. These prove beneficial, by promoting a discharge from the intestines, and also by acting as a kindly fomentation to the womb and parts adjacent. Great care, however, is requisite in giving them, on account of the tenderness of the parts in the *pelvis* at this time.

To evacuate the offending bile from the stomach, a vomit is generally given. But as this is apt to increase the irritability of the stomach, already too great, it will be safer to omit it, and to give in its stead a gentle laxative, which will both tend to cool the body, and to procure a free discharge of the bile.*

* Midwives ought to be very cautious in administering vomits or purges to women in child-bed. I have known a woman who was recovering extremely well, thrown into the most imminent danger by a strong purge which was given her by an officious midwife.

The medicine which I have always found to succeed best in this disease, is the saline draught. This, if frequently repeated, will often put a stop to the vomiting, and at the same time lessen the violence of the fever. If it runs off by stool, or if the patient be restless, a few drops of laudanum, or some syrup of poppies, may occasionally be added.

If the stools should prove so frequent as to weaken and exhaust the patient, a starch clyster, with thirty or forty drops of laudanum in it, may be administered as occasion shall require; and the drink may be rice-water, in every English pint of which half an ounce of gum-arabic has been dissolved. Should these fail, recourse must be had to Columbo-root, or the powder of bole combined with opium.

Though in general the food ought to be light, and the drink diluting, yet, when the disease has been long protracted, and the patient is greatly spent by evacuations, it will be necessary to support her with nourishing diet, and generous cordials.

It was observed, that this fever, after continuing for some time, often acquires a putrid form. In this case the Peruvian bark must be given, either by itself, or joined with cordials, as circumstances may require. As the bark in substance will be apt to purge, it may be given in decoction or infusion mixed with the tincture of roses, or other gentle astringents; or a scruple of the extract of bark with half an ounce of spirituous cinnamon-water, two ounces of common water, and ten drops of laudanum, may be made into a draught, and given every second, third, or fourth hour, as shall be found necessary.

When the stomach will not bear any kind of nourishment, the patient may be supported for some time by clysters of beef-tea or chicken-broth.

To avoid this fever, every woman in child-bed ought to be kept perfectly easy; her food should be light and simple, and her bed-chamber cool and properly ventilated. There is not any thing more hurtful to a woman in this situation than being kept too warm. She ought not to have her body bound too tight, nor to rise too soon from bed after delivery; catching cold is also to be avoided; and a proper attention should be paid to cleanliness.

Milk Fever.—To prevent the milk fever, the breasts ought to be frequently drawn; and if they are filled previous to the onset of a fever, they should, upon its first appearance, be drawn, to prevent the milk from becoming acrid, and its being absorbed in this state. Costiveness is likewise to be avoided. This will be best effected by the use of mild clysters and a laxative diet.

We shall conclude our observations on child-bed women, by recommending it to them, above all things, to beware of cold. Poor women, whose circumstances oblige them to quit their bed too soon, often contract diseases from cold of which they never recover. It is a pity the poor are not better taken care of in this situation. But the better sort of women run the greatest hazard from too much heat. They are generally kept in a sort of bagnio for the first eight or ten days, and then dressed out to see company. The danger of this conduct must be obvious to every one. The

superstitious custom of obliging women to keep the house till they go to church is likewise a very common cause of catching cold. All churches are damp, and most of them cold; consequently they are the very worst places to which a woman can go to make her first visit, after having been confined in a warm room for a month.

CHAP. XI.

OF BARRENNESS.

Barrenness may be very properly reckoned among the diseases of females, as few married women, who have not children, enjoy a good state of health. It may proceed from various causes, as high living, grief, relaxation, &c.; but it is chiefly owing to an obstruction or irregularity of the menstrual flux.

It is very certain that high living vitiates the humours, and prevents fecundity. We seldom find a barren woman among the labouring poor, while nothing is more common among the rich and affluent. The inhabitants of every country are prolific in proportion to their poverty; and it would be an easy matter to adduce many instances of women, who, by being reduced to live entirely upon milk and vegetable diet, have conceived and brought forth children, though they never had any before. Would the rich use the same sort of food and exercise as the better sort of peasants, they would seldom have cause to envy their poor vassals and dependants the blessing of a numerous and healthy offspring, while they pine in sorrow for the want of even a single heir to their extensive domains.

Affluence begets indolence, which not only vitiates the humours, but induces a general relaxation of the solids; a state highly unfavourable to procreation. To remove this, we would recommend the following course:—First, sufficient exercise in the open air; secondly, a diet consisting chiefly of milk and vegetables*; thirdly, the use of astringent medicines, as steel, alum, dragon's blood, elixir of vitriol, the Spa or Tunbridge waters, Peruvian bark, &c.; and, lastly, above all, the cold bath.

Barrenness is often the consequence of grief, sudden fear, anxiety, or any of the passions which tend to obstruct the menstrual flux. When barrenness is suspected to proceed from affections of the mind, the person ought to be kept as easy and cheerful as possible; all disagreeable objects are to be avoided, and every method taken to amuse and entertain the fancy.

I believe I have never written, and I hope I never shall write, any thing offensive to real modesty. Yet I have not suppressed, from motives of false delicacy, what I thought might be of import-

* Dr. Cheyne avers, that want of children is oftener the fault of the male than of the female; in this the Doctor and I do not agree; and strongly recommends a milk and vegetable diet to the former as well as the latter; adding, that his friend Dr. Taylor, whom he called the Milk-doctor of Croyden, had brought sundry opulent families in his neighbourhood, who had continued some years after marriage without progeny, to have several fine children, by keeping both parents, for a considerable time, to a milk and vegetable diet.

ance on a subject so closely connected with conjugal happiness. The remarks here made, though few and apparently simple, contain all that is really known, in medical practice, of the causes and remedies of barrenness. I therefore wish to put married ladies on their guard against the fallacy of private suggestions, and of public advertisements on this head. The things commonly advised by silly nurses, as well as the *grand restoratives* of quack impostors, are all of them dangerous stimulants, that provoke desire, but enfeeble, instead of strengthening, the powers of nature, and render a weakness, which proper treatment might have removed, absolutely incurable.

CHAP. XII.

DISEASES OF INFANTS.

Miserable indeed is the lot of man in the state of infancy! He comes into the world more helpless than any other animal, and stands much longer in need of the protection and care of his parents: but, alas! this care is not always bestowed upon him; and when it is, he often suffers as much from improper management as he would have done from neglect. Hence the officious care of parents, nurses, and midwives, becomes one of the most fruitful sources of the disorders of infants.*

It must be obvious to every attentive person, that the first diseases of infants arise chiefly from their bowels. Nor is this in the least to be wondered at, as they are in a manner poisoned with indigestible drugs and improper diet as soon as they come into the world. Every thing that the stomach cannot digest may be considered as a poison; and unless it can be thrown up, or voided by stool, it must occasion sickness, gripes, spasmodic affections of the bowels, or what the good women call inward fits, and at last convulsions and death.

As these symptoms evidently arise from somewhat that irritates the intestines, doubtless the proper method of cure must be to remove it as soon as possible. The most safe and effectual method of doing this is by gentle vomits. Five or six grains of the powder of ipecacuanha may be mixed in two table-spoonsful of water, and sweetened with a little sugar. A tea-spoonful of this may be given to the infant every quarter of an hour till it operates; or, what will more certainly answer the purpose, a grain of emetic tartar, may be dissolved in three ounces of water, sweetened with a little syrup, and given as above. Those who are unwilling to use

* Of the officious and ill-judged care of midwives, we shall adduce only one instance, viz. the common practice of torturing infants, by squeezing their breasts, to draw off the milk, as they call it. Though a small quantity of moisture is generally found in the breasts of infants, yet, as they are certainly not intended to give suck, this ought never to be drawn off. I have seen this cruel operation bring on hardness, inflammation, and suppuration of the breasts; but never knew any ill consequences from its being omitted. When the breasts are hard, the only application that we would recommend is a soft poultice, or a little of the diachylon plaster, spread thin upon a bit of soft leather, about the size of half a crown, and applied over each nipple. These may be suffered to continue till the hardness disappears.

the emetic tartar, may give six or seven drops of the antimonial wine, in a tea-spoonful of water or thin gruel. Small doses of the ipecacuanha wine will be found more gentle than any of the above, and ought to be preferred.

These medicines will not only cleanse the stomach, but will generally likewise open the body. Should this, however, not happen, and if the child be costive, some gentle purge will be necessary: for this purpose, some manna and pulp of cassia may be dissolved in boiling water, and given in small quantities till it operates; or, what will answer rather better, a few grains of *magnesia alba* may be mixed in any kind of food that is given to the child, and continued till it has the desired effect. If these medicines be properly administered, and the child's belly and limbs frequently rubbed with a warm hand before the fire, they will seldom fail to relieve those affections of the stomach and bowels from which infants suffer so much.

These general directions include most of what can be done for relieving the internal disorders of infants. They will likewise go a considerable way in alleviating those which appear externally, as the rash, *gum*, or *fellon*, &c. These, as was formerly observed, are principally owing to too hot a regimen, and consequently will be most effectually relieved by gentle evacuations. Indeed, evacuations of one kind or other constitute a principal part of the medicine of infants, and will seldom, if administered with prudence, in any of their diseases, fail to give relief.

Of the Meconium.

The stomach and bowels of a new-born infant are filled with a blackish-coloured matter of the consistence of syrup, commonly called the *meconium*. This is generally passed soon after the birth, by the mere effort of nature; in which case it is not necessary to give the infant any kind of medicine. But if it should be retained, or not sufficiently carried off, a little manna, or *magnesia alba*, may be given, as mentioned above; or, if these should not be at hand, a common spoonful of whey, sweetened with a little honey, or moist sugar, will answer the purpose.

The most proper medicine for expelling the *meconium* is the mother's milk, which is always at first of a purgative quality. Were children allowed to suck as soon as they show an inclination for the breast, they would seldom have occasion for medicines to discharge the *meconium;* but even where this is not allowed, they ought never to have daubs of syrup, oils, and other indigestible stuff, crammed down their throats.

The Aphthæ, or Thrush.

The aphthæ are little whitish ulcers affecting the whole inside of the mouth, tongue, throat, and stomach of infants. Sometimes they reach through the whole intestinal canal; in which case they are very dangerous, and often put an end to the infant's life.

If the aphthæ are of a pale colour, pellucid, few in number, soft, superficial, and fall easily off, they are not dangerous; but if opake, yellow, brown, black, thick, or running together, they ought to be dreaded.

It is generally thought that the aphthæ owe their origin to acrid humours; we have reason, however, to believe, they are more frequently owing to too hot a regimen both of the mother and child. It is a rare thing to find a child who is not dosed with wine, punch, cinnamon-waters, or some other hot and inflaming liquors, almost as soon as it is born. It is well known that these will occasion inflammatory disorders, even in adults; is it any wonder then that they should heat and inflame the tender bodies of infants, and set, as it were, the whole constitution on a blaze?

The most proper medicines for the aphthæ are vomits, such as have been already recommended, and gentle laxatives. Five grains of rhubarb, and half a drachm of *magnesia alba*, may be rubbed together, and divided into six doses, one of which may be given to the infant every four or five hours till they operate. These powders may either be given in the child's food, or a little of the syrup of pale roses, and may be repeated as often as is found necessary to keep the body open. It is common in this case to administer calomel; but as that medicine sometimes occasions gripes, it ought always to be given to infants with caution.

Many things have been recommended for gargling the mouth and throat in this disease; but it is not easy to apply these in very young children; we would therefore recommend it to the nurse to rub the child's mouth frequently with a little borax and honey; or with the following mixture:—Take fine honey an ounce, borax a drachm, burnt alum half a drachm, rose-water two drachms; mix them together. A very proper application in this case is a solution of ten or twelve grains of white vitriol in eight ounces of barley-water. These may be applied with the finger, or by means of a bit of soft rag tied to the end of a probe.

Hiccups.

Some infants are much incommoded by hiccups, arising probably, either from acidity in the stomach, or from some nervous irritation. In the former case, a powder composed of a little prepared chalk and rhubarb (about eight grains of the former with two or three of the latter) may prove beneficial. In the latter, it may be proper to give a few drops of the aromatic spirit of ammonia, or the compound tincture of camphor (paregoric.) In some cases, a little plain vinegar has proved an effectual remedy. Where the complaint is severe, or returns frequently, it may be advisable to rub the stomach with soap liniment, to which a little tincture of opium has been added.

Of Acidities.

The food of children being for the most part of an acescent nature, it readily turns sour upon the stomach, especially if the body be any way disordered. Hence most diseases of children are accompanied with evident signs of acidity, as green stools, gripes, &c. These appearances have induced many to believe, that all the diseases of children were owing to an acid abounding in the stomach and bowels; but whoever considers the matter attentively, will find that these symptoms of acidity are oftener the effect than the cause of their diseases.

Nature evidently intended that the food of children should be acescent; and unless the body be disordered, or the digestion hurt, from some other cause, we will venture to say, that the acescent quality of their food is seldom injurious to them. Acidity, however, is often a symptom of disorders in children; and, as it is sometimes a troublesome one, we shall point out the method of relieving it.

When green stools, gripes, purgings, sour smells, &c., show that the bowels abound with an acid, the child should have a little small broth, with light white bread in it; and should have sufficient exercise, in order to promote the digestion. It has been customary in this case to give the pearl-julep, chalk, crabs' eyes, and other testaceous powders. These, indeed, by their absorbent quality, may correct the acidity; but they are attended with this inconvenience, that they are apt to lodge in the bowels, and occasion costiveness, which may prove very hurtful to the infant. For this reason they should never be given unless mixed with purgative medicines; as rhubarb, manna, or such like.

The best medicine which we know, in all cases of acidity, is that fine insipid powder, called *magnesia alba*. It purges, and at the same time corrects the acidity: by which means it not only removes the disease, but carries off its cause. It may be given in any kind of food, or in a mixture, as recommended in the Appendix.*

When an infant is troubled with gripes, it ought not at first to be dosed with brandy, spiceries, and other hot things; but should have its body opened with an emollient clyster, or the medicine mentioned above; and, at the same time, a little brandy may be rubbed on its belly with a warm hand before the fire. I have seldom seen this fail to ease the gripes of infants. If it should happen, however, not to succeed, a little brandy or other spirits may be mixed with thrice the quantity of warm water, and a tea-spoonful of it given frequently, till the infant be easier. Sometimes a little peppermint-water will answer this purpose as well.†

Galling and Excoriation.

These are very troublesome to children. They happen chiefly about the groin and wrinkles of the neck, under the arms, behind the ears, and in other parts that are moistened by the sweat or urine.

As these complaints are, in a great measure, owing to want of cleanliness, the most effectual means of preventing them are, to wash the parts frequently with cold water, to change the linen often, and, in a word, to keep the child in all respects thoroughly clean. When this is not sufficient, the excoriated parts may be sprinkled with absorbent or drying powders; as burnt hartshorn, tutty, chalk, crabs' claws prepared, and the like. When the parts

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* See Appendix, *Laxative absorbent Mixture.*

† Twenty drops of the spirits of hartshorn given in a little linseed-tea immediately relieves children affected by that acidity of the bowels which frequently attends teething. Much of the acidity of the stomachs of children arises from the too free use of fermented bread.

affected are very sore, and tend to a real ulceration, it will be proper to add a little sugar of lead to the powders; or to anoint the place with the camphorated ointment. If the parts be washed with spring-water, in which a little white vitriol has been dissolved, it will dry and heal them very powerfully. One of the best applications for this purpose is to dissolve some fuller's earth in a sufficient quantity of hot water; and after it has stood till it is cold, to rub it gently upon the galled parts once or twice a-day. Or to wash them gently now and then with a mixture of equal parts of rose-water and spirits of wine.

Stoppage of the Nose.

The nostrils of infants are often plugged up with a gross *mucus*, which prevents their breathing freely, and likewise renders it difficult for them to suck or swallow.

Some in this case order, after a suitable purge, two or three grains of white vitriol, dissolved in half an ounce of marjoram water, and filtered, to be applied now and then to the nostrils with a linen-rag. Wedellus says, if two grains of white vitriol, and the same quantity of *elaterium*, be dissolved in half an ounce of marjoram-water, and applied to the nose, as above directed, that it brings away the *mucus* without sneezing.

In obstinate cases these medicines may be tried; but I have never found any thing necessary, besides rubbing the nose at bed-time with a little sweet oil, or fresh butter. This resolves the filth, and renders the breathing more free.*

Of Vomiting.

From the delicate state of children, and the great sensibility of their organs, a vomiting or looseness may be induced by any thing that irritates the nerves of the stomach or intestines. Hence these disorders are much more common in childhood than in the more advanced periods of life. They are seldom, however, dangerous, and ought never to be considered as diseases, unless when they are violent, or continue so long as to exhaust the strength of the patient.

Vomiting may be excited by an over-quantity of food; by food that is of such a nature as to irritate the nerves of the stomach too much; or by the sensibility of the nerves being so much increased as to render them unable to bear the stimulus of even the mildest aliment.

When vomiting is occasioned by too much food, it ought to be promoted, as the cure will depend upon cleansing the stomach. This may be done either by a few grains of ipecacuanha, or a weak solution of emetic tartar, as mentioned before. When it is owing to food of an acrid or irritating quality, the diet ought to be changed, and aliment of a milder nature substituted in its stead.

When vomiting proceeds from an increased degree of sensibility,

* Some nurses remove this complaint by sucking the child's nose. This is by no means a cleanly operation; but when nurses have the resolution to do it, I am far from discouraging the practice.

or too great an irritability of the nerves of the stomach, such medicines as have a tendency to brace and strengthen that organ, and to abate its sensibility, must be used. The first of these intentions may be answered by a slight infusion of the Peruvian bark, with the addition of a little rhubarb and orange-peel; and the second by the saline draughts, to which a few drops of liquid laudanum may occasionally be added.

In obstinate vomitings the operation of internal medicines may be assisted by aromatic fomentations made with wine, applied warm to the pit of the stomach; or the use of the stomach-plaster, with the addition of a little *t'ieriaca.*

Looseness. *(Diarrhœa.)*

A looseness may generally be reckoned salutary, when the stools are sour, slimy, green, or curdled. It is not the discharge, but the production of such stools, which ought to be remedied. Even where the purging is thin and watery, it ought not to be checked too suddenly, as it often proves critical, especially when the child has caught cold, or an eruption on the skin has disappeared. Sometimes an evacuation of this kind succeeds a humid state of the atmosphere, in which case it may also prove of advantage, by carrying off a quantity of watery humours which would otherwise tend to relax the habit.

Diarrhœa may be injurious in different ways. The increased peristaltic motion of so great a tract of sensible muscular substance as the intestinal canal must, like other muscular exertion, weaken the bowels; and thus the whole body sympathises with it. Great debility is often rapidly excited by affections of the intestinal fibres, though there have been few evacuations. Diarrhœa likewise injures the system by the irritation and great secretion which often accompanies it, whether in children or adults; add to this the diminution of the powers of digestion, and the obstacle afforded to the absorption of the due quantity of chyle, together with the derangement which other parts of the system may suffer, and the diseases thus excited, such as convulsions, anasarca, &c.

As the principal intention in the cure of a looseness is to evacuate the offending matter, it is customary to give the patient a gentle vomit of ipecacuanha, and afterwards to exhibit small and frequent doses of rhubarb; interposing absorbent medicines to mitigate the acrimony of the humours. The best purge, however, in this case, is *magnesia alba.* It is at the same time absorbent and laxative, and operates without exciting gripes.

The antimonial wine, which acts both as an emetic and purge, is also an excellent medicine in this case. By being diluted with water, it may be proportioned to the weakest constitution; and, not being disagreeable to the palate, it may be repeated as often as occasion requires. Even one dose will frequently mitigate the disease, and pave the way for the use of absorbents. If, however, the patient's strength will permit, the medicine ought to be repeated every six or eight hours, till the stools begin to assume a more natural appearance; afterwards a longer space may be allowed to intervene between the doses. When it is necessary to repeat the

medicine frequently, the dose ought always to be a little increased, as its efficacy is generally diminished by use.

Some, upon the first appearance of a looseness, fly immediately to the use of absorbent medicines and astringents. If these be administered before the offending humours are discharged, though the disease may appear to be mitigated for a little time, it soon afterwards breaks forth with greater violence, and often proves fatal. After proper evacuations, however, these medicines may be administered with considerable advantage.

Should any gripings or restlessness remain after the stomach and bowels have been cleansed, a tea-spoonful of the syrup of poppies may be given in a little simple cinnamon-water three or four times a-day, till these symptoms have ceased.

Cutaneous Eruptions.

Children, while on the breast, are seldom free from eruptions of one kind or other. These, however, are not often dangerous, and ought never to be dried up but with the greatest caution. They tend to free the bodies of infants from hurtful humours, which, if retained, might produce fatal disorders.

The eruptions of children are chiefly owing to improper food and neglect of cleanliness. If a child be stuffed at all hours with food that its stomach is not able to digest, such food, not being properly assimilated, instead of nourishing the body, fills it with gross humours. These must either break out in form of eruptions upon the skin, or remain in the body, and occasion fevers and other internal disorders. That neglect of cleanliness is a very general cause of eruptive disorders, must be obvious to every one. The children of the poor, and of all who despise cleanliness, are almost constantly found to swarm with vermin, and are generally covered with the scab, itch, and other eruptions.

When eruptions are the effect of improper food, or want of cleanliness, a proper attention to these alone will generally be sufficient to remove them. If this should not be the case, some drying medicines will be necessary. When they are applied, the body ought at the same time to be kept open, and cold is carefully to be avoided. We know no medicine that is more safe for drying up cutaneous eruptions than sulphur, provided it be prudently used. A little of the flowers of sulphur may be mixed with fresh butter, oil, or hog's lard, and the parts affected frequently touched with it.

The most obstinate of all the eruptions incident to children are, the *tinea capitis*, or scabbed head, and chilblains. The scabbed head is often exceedingly difficult to cure, and sometimes, indeed, the cure proves worse than the disease. I have frequently known children seized with internal disorders, of which they died soon after their scabbed heads had been healed by the application of drying medicines.* The cure ought always first to be attempted by

* I some time ago saw a very striking instance of the danger of substituting drying medicines in the place of cleanliness and wholesome food, in the Foundling Hospital at Ackworth, where the children were grievously afflicted with scabbed heads, and other cutaneous disorders. Upon inquiry it was found, that very little attention was paid either to the propriety or soundness of their provisions, and that cleanliness was totally neglected; accordingly it was advised that they should have more wholesome

keeping the head very clean, cutting off the hair, combing and brushing away the scabs, &c. If this is not sufficient, let the head be shaved once a-week, washed daily with yellow soap, and gently anointed with a liniment made of train-oil eight ounces, red precipitate, in fine powder, one drachm. And if there be proud flesh, it should be touched with a bit of blue vitriol, or sprinkled with a little burnt alum. While these things are doing, the patient must be confined to a regular light diet, the body should be kept gently open; and cold, as far as possible, ought to be avoided. To prevent any bad consequences from stopping this discharge, it will be proper, especially in children of a gross habit, to make an issue in the neck or arm, which may be kept open till the patient becomes more strong, and the constitution be somewhat mended.

Chilblains commonly attack children in cold weather. They are generally occasioned by the feet or hands being kept long wet or cold, and afterwards suddenly heated. When children are cold, instead of taking exercise to warm themselves gradually, they run to the fire. This occasions a sudden rarefaction of the humours, and an infarction of the vessels; which being often repeated, the vessels are at last over-distended, and forced to give way.

To prevent it, violent cold and sudden heat must be equally avoided. When the parts begin to look red and swell, the patient ought to be purged, and to have the affected parts frequently rubbed with mustard and brandy, or something of a warming nature. They ought likewise to be covered with flannel, and kept warm and dry. Some apply warm ashes between cloths to the swelled parts, which frequently help to reduce them. When there is a sore, it must be dressed with Turner's cerate, the ointment of tutty, the plaster of cerus, or some other drying ointment. These sores are, indeed, troublesome, but seldom dangerous. They generally heal as soon as the warm weather sets in.

Of the Croup.

Children are often seized very suddenly with this disease, which, if not quickly relieved, proves mortal. It is known by various names in different parts of Britain. On the east coast of Scotland, it is called the *croup*. On the west they call it the *chock* or *stuffing*. In some parts of England, where I have observed it, the good women call it the *rising of the lights*. It seems to be a species of *asthma*, attended with very acute and violent catarrhal symptoms.

This disease generally prevails in cold and wet seasons. It is most common upon the sea-coast, and in low marshy countries. Children of a gross and lax habit are most liable to it. I have sometimes known it hereditary. It generally attacks children in the night, after having been much exposed to damp cold easterly winds through the day. Damp houses, wet feet, thin shoes, wet

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food, and be kept thoroughly clean. This advice, however, was not followed. It was too troublesome to the servants and superintendents. The business was to be done by medicine; which was accordingly attempted, but had nearly proved fatal to the whole house. Fevers and other internal disorders, immediately appeared, and at length a putrid dysentery, which proved so infectious, that it carried off a great many of the children and spread over a considerable part of the neighbouring country.

clothes, or any thing that obstructs the perspiration, may occasion the croup.

It is attended with a frequent pulse, quick and laborious breathing, which is performed with a peculiar kind of croaking noise, that may be heard at a considerable distance. The voice is sharp and shrill, and the face is generally much flushed, though sometimes it is of a livid colour.

When a child is seized with the above symptoms, his feet should immediately be put into warm water. He ought likewise to be bled,* and to have a laxative clyster administered as soon as possible. He should be made to breathe over the steams of warm water and vinegar; or an emollient decoction, and emollient cataplasms or fomentations may be applied round his neck. If the symptoms do not abate, a blistering plaster must be applied round the neck, or between the shoulders, and the child may take frequently a table-spoonful of the following julep:—Take penny-royal water, three ounces, syrup of althea and of poppies, each one ounce; mix them together.

Assafœtida† is found to have a good effect in this case. It may be both given in form of clyster, and taken by the mouth. Two drachms of assafœtida may be dissolved in one ounce of Minderer-us's spirit, and three ounces of penny-royal water. A table-spoonful of this mixture may be given every hour, or oftener, if the patient's stomach be able to bear it.‡ If the child cannot be brought to take this medicine, two drachms of the assafœtida may be dissolved in a common clyster, and administered every six or eight hours, till the violence of the disease abates.§

Emetics‖ have been strongly recommended in croup, whilst others have little faith in their utility. Much benefit may be derived, nevertheless, from their early use. Even in the advanced stage of the disease, emetics do much service, appearing mechanically to remove the lymphatic membrane. Decoctions of senega and preparations of squills have been used to assist the expectoration of the membrane; but, for this purpose, they do not equal emetics.

Calomel would appear to be a powerful remedy in croup, and,

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* In this disease bleeding is not always proper; but in very full habits it must certainly be of use.

† Antispasmodics have been trusted to almost exclusively by many; but their exhibition, it would appear, ought to be confined to a different disease, namely, dentition.

‡ We find this formula copied into other works, under the name of Dr. Miller's formula, though we verily believe it to belong originally to this work! Ed.

§ I was lately favoured with a letter from Dr. William Turnbull, in London, a physician of great experience, and who, from his former situation on the north-east coast of England, had many opportunities of observing the symptoms and progress of this dangerous disease. The Doctor's sentiments differ very little from my own: he observes, that he never found blistering of any service; and recommends cataplasms of garlic, camphor, and Venice treacle to be applied both to the throat and soles of the feet. He likewise recommends boluses of camphor, castor, valerian-root, salt of hartshorn, and musk, adapted to the age, strength, &c. of the patient; after which he advises two spoonsful of the following decoction:—Take of garlic and distilled vinegar each an ounce, hyssop-water eight ounces; beat up the ingredients together, gradually mixing the water, and adding three ounces of honey. Let the whole be simmered over a gentle fire, and afterwards strained for use.

‖ Take Tartarized Antimony, 2 grains,
Pure Water, 2 ounces.
Oxymel of Squill, ½ ounce.
Mix them together, and give two teaspoonsful from time to time until vomiting is promoted.

if given early, it will frequently save the child. The early detraction of blood, followed by an emetic, and the subsequent use of calomel,* will afford the greatest hope of removing the disease. To an infant of six months, a grain and a half of calomel may be given every hour, until it purge freely; to a child a year old two grains; and to one of two years old, sometimes even four grains are given every hour, until the bowels are acted on, and the child purges freely, or vomits repeatedly. The stools are generally green in colour, and their discharge is usually accompanied with an alleviation of the symptoms. When this is observed, the dose must be repeated less frequently, perhaps only once in two hours for some time, then still seldomer, and finally abandoned. Should the child be greatly weakened, either by the disease or the medicine, the strength must be afterwards carefully supported by nourishment and cordials. Notwithstanding the great quantity of calomel given in this way, salivation is not produced in children.

Dr. James Hamilton, junior, to whom we are chiefly indebted for the introduction of the use of calomel in croup in this country, from the practice of Dr. Rush, is extremely unwilling to bleed children freely in this disease, from its subsequent debilitating effects; and in croup, begins at once with the calomel, after having used the warm bath.

Some children are subject to slight wheezing, continuing for a day or two, with intermissions, and accompanied with a hoarseness, but without fever. Emetics, laxatives, and a large Burgundy-pitch plaster applied to the back, remove the disease.

To prevent a return of the disorder, all those things which occasion it must be carefully avoided; as wet feet, cold, damp, easterly winds, &c. Children who have had frequent returns of this disease, or whose constitutions seem to dispose them to it, ought to have their diet properly regulated; all food that is viscid or hard of digestion, and all crude, raw, trashy fruits are to be avoided. They ought likewise to have a drain constantly kept open in some part of their body, by means of a seton or issue. I have sometimes known a Burgundy-pitch plaster, worn continually between the shoulders for several years, have a very happy effect in preventing the return of this dreadful disorder.

Of Teething.

Dr. Arbuthnot observes, that above a tenth part of infants die in teething, by symptoms proceeding from the irritation of the tender nervous parts of the jaws, occasioning inflammations, fevers, convulsions, gangrenes, &c. These symptoms are in a great measure owing to the great delicacy and exquisite sensibility of the nervous system at this time of life, which is too often increased by an effeminate education. Hence it comes to pass, that children who are delicately brought up always suffer most in teething, and often fall by convulsive disorders.

About the sixth or seventh month the teeth generally begin to make their appearance; first, the *incisores*, or fore-teeth; next, the *canini*, or dog-teeth; and, lastly, the *molares*, or grinders. About

*Take Rhubarb in Powder, 6 grains, Calomel, 2 grains. Make a powder.

the seventh year there comes a new set; and about the twentieth, the two inner grinders, called *dentes sapientiæ*, the teeth of wisdom.

Children about the time of cutting their teeth, slaver much, and have generally a looseness. When the teething is difficult, especially when the dog-teeth begin to make their way through the gums, the child has startings in his sleep, tumours of the gums, watchings, gripes, green stools, the thrush, fever, difficult breathing, and convulsions.

Difficult teething requires nearly the same treatment as an inflammatory disease. If the body be bound, it must be opened either by emollient clysters or gentle purgatives; as manna, *magnesia alba*, rhubarb, senna, or the like. The food should be light, and in small quantity; the drink plentiful, but weak and diluting, as infusions of balm, or of the lime-tree flowers; to which about a third or fourth part of milk may be added.

If the fever be high, bleeding will be necessary; but this in very young children ought always to be sparingly performed. It is an evacuation which they bear the worst of any. Purging, vomiting, or sweating, agree much better with them, and are generally more beneficial. Harris, however, observes, that when an inflammation appears, the physician will labour in vain, if the *cure* be not begun with applying a leech under each ear. If the child be seized with convulsion-fits, a blistering plaster may be applied between the shoulders, or one behind each ear.

Sydenham says, that in fevers occasioned by teething he never found any remedy so effectual as two, three, or four drops of spirits of hartshorn in a spoonful of simple water, or other convenient vehicle, given every four hours. The number of doses may be four, five, or six. I have often prescribed this medicine with success, but always found a larger dose necessary. It may be given from five drops to fifteen or twenty, according to the age of the child, and when costiveness does not forbid it, three or four drops of laudanum may be added to each dose.

In Scotland, it is very common, when children are cutting their teeth, to put a small Burgundy-pitch plaster between their shoulders. This generally eases the tickling cough which attends teething, and is by no means a useless application. When the teeth are cut with difficulty, it ought to be kept on during the whole time of teething. It may be enlarged as occasion requires, and ought to be renewed at least once a fortnight.

Several things have been recommended for rubbing the gums, as oils, mucilages, &c.; but from these much is not to be expected. If any thing of this kind is to be used, we would recommend a little fine honey, which may be rubbed on with the finger three or four times a-day. Children are generally at this time disposed to chew whatever they get into their hands. For this reason they ought never to be without somewhat that will yield a little to the pressure of their gums, as a crust of bread, a wax-candle, a bit of liquorice-root, or such like.

With regard to cutting the gums, we have seldom known it of any great benefit. In obstinate cases, however, it ought to be tried. It may be performed by the finger-nail, the edge of a six-

penny piece* that is worn thin, or any sharp body which can be with safety introduced into the mouth; but the lancet, in a skilful hand, is certainly the most proper.

In order to render the teething less difficult, parents ought to take care that their children's food be light and wholesome, and that their nerves be braced by sufficient exercise without doors, the use of the cold bath, &c. Were these things duly regarded, they would have a much better effect than *teething (anodyne) necklaces*, or other nonsensical relics of superstition, worn for that purpose.

Infants, during dentition, are subject to sudden attacks of spasm about the wind-pipe, producing a temporary feeling of suffocation, with a crowing sound; but there is no hoarse cough. It is apt to take place suddenly at night, or when crying. It is cured by giving a combination of tincture of assafœtida, and of hyoscyamus (henbane,) and using laxatives. The tepid bath is also useful. The gum should be cut; and if there be any tendency to a return, particularly if the child be hot, and the pulse quick, the eye heavy, and the face unusually pale, or flushed, leeches should be applied, and then a blister to the back of the head.

Of the Rickets.

This disease generally attacks children between the age of nine months and two years. It appeared first in England about the time when manufactures began to flourish, and still prevails most in towns where the inhabitants follow sedentary employments, by which means they neglect either to take proper exercise themselves, or to give it to their children.

Causes.—One cause of the rickets is diseased parents. Mothers of a weak relaxed habit, who neglect exercise, and live upon weak watery diet, can neither be expected to bring forth strong and healthy children, or to be able to nurse them after they are brought forth. Accordingly we find that the children of such women generally die of the rickets, the scrofula, consumptions, or such like diseases. Children begotten by men in the decline of life, who are subject to the gout, the gravel, or other chronic diseases, or who have been often afflicted with the venereal disease in their youth, are likewise very liable to the rickets.

Any disorder that weakens the constitution or relaxes the habit of children, as the small-pox, measles, teething, the hooping-cough, &c. disposes them to this disease. It may likewise be occasioned by improper diet, as food that is either too weak and watery, or so viscid that the stomach cannot digest it.

But nursing is the chief cause of this disease. When the nurse is either diseased, or has not enough milk to nourish the child, it

* Whatever exception may have been taken by Dr. Underwood at the edge of a sixpenny piece, (see his *Treatise on the Diseases of children*, vol. i. p. 328.) or others who have quoted him, in performing this operation, it could never be understood that the regular surgeon would have recourse to it instead of his lancet; then, what could be better adapted, in an unskilful hand, than one of the old thin sixpences, or attended with less danger. A lancet, certainly, would accomplish the object better could it be trusted in the hands of every one; this, however, is not the case. Ed.

cannot thrive. But children suffer oftener by want of care in nurses than want of food. Allowing an infant to lie or sit too much, or not keeping it thoroughly clean in its clothes, has the most pernicious effects.

The want of free air is likewise very hurtful to children in this respect. When a nurse lives in a close small house, where the air is damp and confined, and is too indolent to carry her child abroad into the open air, it will hardly escape this disease. A healthy child should always be in motion, unless when asleep; if it be suffered to lie or sit, instead of being tossed and dandled about, it will not thrive.

Symptoms.—At the beginning of this disease the child's flesh grows soft and flabby; its strength is diminished; it loses its wonted cheerfulness, looks more grave and composed than is natural for its age, and does not choose to be moved. The head and belly become too large in proportion to the other parts; the face appears full, and the complexion florid. Afterwards the bones begin to be affected, especially in the more soft and spungy parts. Hence the wrists and ankles become thicker than usual; the spine or backbone puts on an unnatural shape; the breast is likewise often deformed, and the bones of the arms and legs grow crooked. All these symptoms vary according to the violence of the disease. The pulse is generally quick, but feeble; the appetite and digestion for the most part bad; the teeth come slowly and with difficulty, and they often rot and fall out afterwards. Ricketty children generally have great acuteness of mind, and an understanding above their years. Whether this is owing to their being more in the company of adults than other children, or to the preternatural enlargement of the brain, is not material.

Regimen.—As this disease is always attended with evident signs of weakness and relaxation, our chief aim in the cure must be to brace and strengthen the solids, and to promote digestion and the due preparation of the fluids. These important ends will be best answered by wholesome nourishing diet, suited to the age and strength of the patient, open dry air, and sufficient exercise. If the child has a bad nurse, who either neglects her duty, or does not understand it, she should be changed. If the season be cold, the child ought to be kept warm; and when the weather is hot, it ought to be kept cool; as sweating is apt to weaken it, and too great a degree of cold has the same effect. The limbs should be rubbed frequently with a warm hand, and the child kept as cheerful as possible.

The diet ought to be dry and nourishing, as good bread, roasted flesh, &c. Biscuit is generally reckoned the best bread; and pigeons, pullets, veal, rabbits, or mutton roasted or minced, are the most proper meat. If the child be too young for animal food, he may have rice, millet, or pearl-barley, boiled with raisins, to which may be added a little wine or spice. His drink may be good claret mixed with an equal quantity of water. Those who cannot afford claret, may give the child now and then a wine-glass of mild ale, or good porter.

Medicine.—Medicines are here of little avail. The disease may often be cured by the nurse, but seldom by the physician. In children of a gross habit, gentle vomits and repeated purges of rhubarb may sometimes be of use, but they will seldom carry off the disease; that must depend chiefly upon such things as brace and strengthen the system; for which purpose, besides the regimen mentioned above, we would recommend the cold bath, especially in the warm season. It must, however, be used with prudence, as some ricketty children cannot bear it. The best time for using the cold bath is in the morning, and the child should be well rubbed with a dry cloth immediately after he comes out of it. If the child should be weakened by the cold bath it must be discontinued.

Sometimes issues have been found beneficial in this disease. They are peculiarly necessary for children who abound with gross humours. An infusion of the Peruvian bark in wine or ale would be of service, were it possible to bring children to take it. We might here mention many other medicines which have been recommended for the rickets; but as there is far more danger in trusting to these than in neglecting them altogether, we choose rather to pass them over, and to recommend a proper regimen as the thing chiefly to be depended on.

Of Convulsions.

Though more children are said to die of convulsions than of any other disease, yet they are for the most part only a symptom of some other malady. Whatever greatly irritates or stimulates the nerves may occasion convulsions. Hence infants, whose nerves are easily affected, are often thrown into convulsions by any thing that irritates the alimentary canal; likewise by teething, strait clothes, the approach of the small-pox, measles, or other eruptive diseases.

When convulsions proceed from an irritation of the stomach or bowels, whatever clears them of their acrid contents, or renders these mild and inoffensive, will generally perform a cure; wherefore, if the child be costive, the best way will be to begin with a clyster, and afterwards to give a gentle vomit, which may be repeated occasionally, and the body in the mean time kept open by gentle doses of *magnesia alba*, or small quantities of rhubarb mixed with the powder of crabs' claws.

Convulsions which precede the eruption of the small-pox or measles generally go off upon these making their appearance. The principal danger in this case arises from the fear and apprehension of those who have the care of the patient. Convulsions are very alarming, and something must be done to appease the affrighted parents, nurses, &c. Hence the unhappy infant often undergoes bleeding, blistering, and several other operations, to the great danger of its life, when a little time, bathing the feet in warm water, and throwing in a mild clyster, would have set all to rights.

When convulsion-fits arise from the cutting of teeth, besides gentle evacuations we would recommend blistering, and the use of antispasmodic medicines, as the tincture of soot, assafœtida, or cas-

tor. A few drops of any of these may be mixed in a cup of white-wine whey, and given occasionally.

When convulsions proceed from any external cause, as the pressure occasioned by strait clothes or bandages, &c. these ought immediately to be removed; though in this case taking away the cause will not always remove the effect, yet it ought to be done. It is not likely that the patient will recover as long as the cause which first gave rise to the disorder continues to act.

When a child is seized with convulsions without having any complaint in the bowels, or symptoms of teething, or any rash or other discharge which has been suddenly dried up, we have reason to conclude that it is a primary disease, and proceeds immediately from the brain. Cases of this kind, however, happen but seldom, which is very fortunate, as little can be done to relieve the unhappy patient. When a disease proceeds from an original fault in the formation or structure of the brain itself we cannot expect that it should yield to medicine. But as this is not always the cause even of convulsions which proceed immediately from the brain, some attempts should be made to remove them. The chief intention to be pursued for this purpose is to make some derivation from the head, by blistering, purging, and the like. Should these fail, issues or setons may be put in the neck, or between the shoulders.

Of Water in the Head.

Though water in the head, or a dropsy of the brain, may affect adults as well as children, yet, as the latter are more peculiarly liable to it, we thought it would be most proper to place it among the diseases of infants.

Causes.—A dropsy of the brain may proceed from injuries done to the brain itself by falls, blows, or the like; it may likewise proceed from an original laxity or weakness of the brain; from scirrhous tumours or excrescences within the skull; a thin watery state of the blood; a diminished secretion of urine; a sudden check of the perspiration; and, lastly, from tedious and lingering diseases, which waste and consume the patient.

Symptoms.—This disease has at first the appearance of a slow fever; the patient complains of a pain in the crown of his head, or over his eyes; he shuns the light, is sick, and sometimes vomits; his pulse is irregular and generally low; though he seems heavy and dull, yet he does not sleep; he is sometimes delirious, and frequently sees objects double; towards the end of this commonly fatal disease the pulse becomes more frequent, the pupils are generally dilated, the cheeks flushed, the patient becomes comatose, and convulsions ensue.*

Medicine.—No medicine has hitherto been found sufficient to carry off a dropsy of the brain. It is laudable, however, to make

* I have lately lost a patient in this disease where a curious *metastasis* seemed to take place. The water at first appeared to be in the abdomen, afterwards in the breast, and last of all it mounted up to the brain, where it soon proved fatal.

some attempts, as time or chance may bring many things to light of which at present we have no idea. The medicines generally used are, purges of rhubarb or jalap, with calomel, and blistering-plasters applied to the neck or back part of the head. To which we would beg leave to add diuretics, or medicines which promote the secretion of urine, such as are recommended in the common dropsy. A discharge from the nose ought likewise to be promoted by causing the patient to snuff the powder of asarum, white hellebore, or the like.*

Some practitioners have of late pretended to cure this disease by the use of mercury. I have not been so happy as to see any instance of a cure being performed in a confirmed dropsy of the brain; but in so desperate a malady every thing deserves a trial.†

To look over the long catalogue of infantile diseases in some medical books, one would be inclined to think that the real design of the authors, though concealed under the show of precision, was to spread alarm through every family. I have had a very different object in view, to quiet the fears of parents, to direct their attention to the proper treatment of their children, and thus to render the use of any medicines almost unnecessary. I have shown the folly of having recourse to physic to bring away the black, viscid, syrup-like substance contained in the intestines of a new-born infant, when the purgative quality of its mother's milk is so admirably suited to that very purpose. The new milk is thin and waterish, but acquires every day greater consistence, and thus affords a more solid aliment to the child, as he becomes more capable of digesting it. If the mother does not vitiate by her own improper diet the pure fountains of nourishment and health which nature has kindly given her, the child will neither be troubled with costiveness nor gripes. He will escape those complaints of the stomach which are occasioned by swallowing crude, inflammatory trash, or still more pernicious drugs. The daily use of the cold bath and frequent exercise in the open air will not only preserve him from colds and defluxions, but from all the disorders which are the consequences of relaxation and of nervous irritability. A child brought up in the manner I have recommended will have little to fear even from external contagion.

The firm texture of his skin, like a shield, will almost resist its approach, and the purity of his habit will correct its malignity. The small-pox is the only infectious disease for which I would have him prepare by any particular process, because that process

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* When the presence of this disease can be ascertained at a sufficiently early period, I believe much benefit may be derived by taking away blood pretty freely by means of leeches applied near the temples. I lately saw an instance where a child was attacked with every symptom of this disease, by which its parents had previously lost children. Leeches were applied. The puncture made by one of them continued to discharge blood during the whole night; on discovering this accident next morning the parents were much alarmed for the consequences. From that period, however, the child began to recover, and is at present in good health. A. P. B.

† One reason why this disease is seldom or never cured may be, that it is seldom known till too far advanced to admit of remedy. Did parents watch the first symptoms, and call a physician in due time, I am inclined to think that something might be done. But these symptoms are not yet sufficiently known, and are often mistaken even by physicians themselves. Of this I lately saw a striking instance in a patient attended by an eminent practitioner of this city, who had all along mistaken the disease for teething.

is so easy and certain, besides affording a perfect command both of time and circumstances.

(Hooping Cough.* See p. 207.)

CHAP. XI.

OBSERVATIONS ON THE MORAL AND PHYSICAL MANAGEMENT OF CHILDREN, DISEASES, &c.

It is during infancy that the foundation of a good or bad constitution is generally laid; it is therefore of importance that parents should be well acquainted with the various causes which may injure the health of their offspring.

It appears from the annual registers of the dead, that almost one half of the children born in Great Britain die under twelve years of age. To many, indeed, this may appear a natural evil; but on due examination it will be found to be one of our own creating. Were the death of infants a natural evil, other animals would be as liable to die young as man; but this we find is by no means the case.

It may seem strange that man, notwithstanding his superior reason, should fall so far short of other animals in the management of his young; but our surprise will soon cease, if we consider that brutes, guided by instinct, never err in this respect; while man, trusting solely to art, is seldom right. Were a catalogue of those infants who perish annually by art alone exhibited to public view, it would astonish most people.

If parents are above taking care of their children, others must be employed for that purpose; these will always endeavour to recommend themselves by the appearance of extraordinary skill and address. By this means such a number of unnecessary and destructive articles have been introduced into the diet, clothing, &c. of infants, that it is no wonder so many of them perish.

Nothing can be more preposterous than a mother who thinks it below her to take care of her own child, or who is so ignorant as not to know what is proper to be done for it. If we search nature throughout, we cannot find a parallel to this. Every other animal is the nurse of its own offspring, and they thrive accordingly. Were the brutes to bring up their young by proxy they would share the same fate with those of the human species.

We mean not, however, to impose it as a task upon every mother to suckle her own child. This, whatever speculative writers may allege, is in some cases impracticable, and would inevitably prove destructive both to the mother and child. Women of delicate constitutions, subject to hysteric fits, or other nervous affections, make very bad nurses;† and these complaints are now so common, that it is rare to find a woman of fashion free from them; such women, therefore, supposing them willing, are often unable to suckle their own children.

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* Small-pox, Measles, Worms, &c. in the body of the work.

† I have known an hysteric woman kill her child by being seized with a fit in the

Almost every mother would be in a condition to give suck, did mankind live agreeably to nature; but whoever considers how far many mothers deviate from her dictates, will not be surprised to find some of them unable to perform that necessary office. Mothers who do not eat a sufficient quantity of solid food, nor enjoy the benefit of free air and exercise, can neither have wholesome juices themselves, nor afford proper nourishment to an infant. Hence children who are suckled by delicate women either die young, or continue weak and sickly all their lives.

When we say that mothers are not always in a condition to suckle their own children, we would not be understood as discouraging that practice. Every mother who can, ought certainly to perform so tender and agreeable an office.* But suppose it to be out of her power, she may, nevertheless, be of great service to her child. The business of nursing is by no means confined to giving suck. To a woman who abounds with milk, this is the easiest part of it. Numberless other offices are necessary for a child, which the mother ought at least to see done.

A mother who abandons the fruit of her womb as soon as it is born to the sole care of an hireling hardly deserves that name. A child, by being brought up under the mother's eye, not only secures her affection, but may reap all the advantages of a parent's care though it be suckled by another. How can a mother be better employed than in superintending the nursery? This is at once the most delightful and important office; yet the most trivial business or insipid amusements are often preferred to it! A strong proof both of the bad taste and wrong education of modern females.

It is indeed to be regretted that more care is not bestowed in teaching the proper management of children to those whom nature has designed for mothers. This, instead of being made the principal, is seldom considered as any part of female education. Is it any wonder, when females so educated come to be mothers, that they should be quite ignorant of the duties belonging to that character? However strange it may appear, it is certainly true, that many mothers, and those of fashion too, are as ignorant, when they have brought a child into the world, of what is to be done for it, as the infant itself. Indeed the most ignorant of the sex are generally reckoned most knowing in the business of nursing. Hence, sensible people become the dupes of ignorance and superstition; and the nursing of children, instead of being conducted by reason, is the result of whim and caprice.†

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* Many advantages would arise to society, as well as to individuals, from mothers suckling their own children. It would prevent the temptation which poor women are laid under of abandoning their children to suckle those of the rich for the sake of gain; by which means society loses many of its most useful members, and mothers become in some sense the murderers of their own offspring. I am sure I speak within the truth when I say, that not one in twenty of those children live who are thus abandoned by their mothers. For this reason no mother should be allowed to suckle another's child till her own is either dead or fit to be weaned. A regulation of this kind would save many lives among the poorer sort, and could do no hurt to the rich, as most women who make good nurses are able to suckle two children in succession upon the same milk.

† Tacitus, the celebrated Roman historian, complains greatly of the degeneracy of the Roman ladies in his time with regard to the care of their offspring. He says, that in former times the greatest women in Rome used to account it their chief glory to keep the house and attend their children; but that now the young infant was com-

Were the time that is generally spent by females in the acquisition of trifling accomplishments employed in learning how to bring up their children; how to dress them so as not to hurt, cramp, or confine their motions; how to feed them with wholesome and nourishing food; how to exercise their tender bodies, so as best to promote their growth and strength: were these made the objects of female instruction, mankind would derive the greatest advantages from it. But while the education of females implies little more than what relates to dress and public show, we have nothing to expect from them but ignorance even in the most important concerns.

Did mothers reflect on their own importance and lay it to heart, they would embrace every opportunity of informing themselves of the duties which they owe to their infant offspring. It is their province, not only to form the body, but also to give the mind its most early bias. They have it very much in their power to make men healthy or valetudinary, useful in life or the pests of society.

But the mother is not the only person concerned in the management of children. The father has an equal interest in their welfare, and ought to assist in every thing that respects either the improvement of the body or mind.

It is a pity that the men should be so inattentive to this matter. Their negligence is one reason why females know so little of it. Women will ever be desirous to excel in such accomplishments as recommend them to the other sex. But men generally keep at such a distance from even the smallest acquaintance with the affairs of the nursery, that many would reckon it an affront were they supposed to know any thing of them. Not so, however, with the kennel or the stables! A gentleman of the first rank is not ashamed to give directions concerning the management of his dogs or horses, yet would blush were he surprised in performing the same office for that being who derived its existence from himself, who is the heir of his fortunes, and the future hope of his country!

Nor have physicians themselves been sufficiently attentive to the management of children. This has been generally considered as the sole province of old women, while men of the first character in physic have refused to visit infants even when sick. Such conduct in the faculty has not only caused this branch of medicine to be neglected, but has also encouraged the other sex to assume an absolute title to prescribe for children in the most dangerous diseases. The consequence is, that a physician is seldom called till the good women have exhausted all their skill; when his attendance can only serve to divide the blame, and appease the disconsolate parents.

Nurses should do all in their power to prevent diseases; but when a child is taken ill, some person of skill ought immediately to be consulted. The diseases of children are generally acute, and the least delay is dangerous.

Were physicians more attentive to the diseases of infants, they

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mitted to the sole care of some poor Grecian wench, or other menial servant.—We are afraid, wherever luxury and effeminacy prevail, there will be too much ground for this complaint.

would not only be better qualified to treat them properly when sick, but likewise to give useful directions for their management when well. The diseases of children are by no means so difficult to be understood as many imagine. It is true, children cannot tell their complaints; but the causes of them may be pretty certainly discovered by observing the symptoms, and putting proper questions to the nurses. Besides, the diseases of infants, being less complicated, are easier cured than those of adults.*

It is really astonishing that so little attention should in general be paid to the preservation of infants. What labour and expense are daily bestowed to prop an old tottering carcase for a few years, while thousands of those who might be useful in life perish without being regarded! Mankind are too apt to value things according to their present, not their future usefulness. Though this is of all others the most erroneous method of estimation, yet upon no other principle is it possible to account for the general indifference with respect to the death of infants.

Of Diseased Parents.

One great source of the diseases of children is the unhealthiness of parents. It would be as reasonable to expect a rich crop from a barren soil, as that strong and healthy children should be born of parents whose constitutions have been worn out with intemperance or disease.

An ingenious writer† observes, that on the constitution of mothers depends originally that of their offspring. No one who believes this will be surprised, on a view of the female world, to find diseases and death so frequent among children. A delicate female, brought up within doors, an utter stranger to exercise and open air, who lives on tea and other slops, may bring a child into the world, but it will hardly be fit to live. The first blast of disease will nip the tender plant in the bud; or should it struggle through a few years' existence, its feeble frame, shaken with convulsions from every trivial cause, will be unable to perform the common functions of life, and prove a burden to society.

If to the delicacy of mothers we add the irregular lives of fathers, we shall see farther cause to believe that children are often hurt by the constitution of their parents. A sickly frame may be originally induced by hardships or intemperance, but chiefly by the latter. It is impossible that a course of vice shall not spoil the best constitution; and, did the evil terminate here, it would be a just punishment for the folly of the sufferer: but when once a disease is contracted and riveted in the habit, it is entailed on posterity. What a dreadful inheritance is the gout, the scurvy, or the king's evil, to transmit to our offspring! How happy had it been for the heir of many a great estate had he been born a beggar, rather than

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* The common opinion, that the diseases of infants are hard to discover and difficult to cure, has deterred many physicians, from paying that attention to them which they deserve. I can, however, from experience declare, that this opinion is without foundation; and that the diseases of infants are neither so difficult to discover nor so ill to cure as those of adults.

† Rousseau.

to inherit his father's fortunes at the expense of inheriting his diseases!

A person labouring under any incurable malady ought not to marry. He thereby not only shortens his own life but transmits misery to others; but when both parties are deeply tainted with the scrofula, the scurvy, or the like, the effects must be still worse. If such have any issue they must be miserable indeed. Want of attention to these things in forming connections for life has rooted out more families than plague, famine, or the sword; and as long as these connections are formed from mercenary views the evil will be continued.*

In our matrimonial contracts, it is amazing so little regard is had to the health and form of the object. Our sportsmen know that the generous courser cannot be bred out of the foundered jade, nor the sagacious spaniel out of the snarling cur. This is settled upon immutable laws. The man who marries a woman of a sickly constitution, and descended of unhealthy parents, whatever his views may be, cannot be said to act a prudent part. A diseased woman may prove fertile; should this be the case, the family must become an infirmary: what prospect of happiness the father of such a family has, we shall leave any one to judge.†

Such children as have the misfortune to be born of diseased parents will require to be nursed with greater care than others. This is the only way to make amends for the defects of constitution; and it will often go a great length. A healthy nurse, wholesome air, and sufficient exercise, will do wonders. But when these are neglected, little is to be expected from any other quarter. The defects of constitution cannot be supplied by medicine.

Those who inherit any family-disease ought to be very circumspect in their manner of living. They should consider well the nature of such disease, and guard against it by a proper regimen. It is certain, that family diseases have often, by proper care, been kept off for one generation; and there is reason to believe, that, by persisting in the same course, such diseases might at length be wholly eradicated. This is a subject very little regarded, though of the greatest importance. Family-constitutions are as capable of improvement as family-estates; and the libertine who impairs the one does greater injury to his posterity than the prodigal who squanders the other.

Clothing of Children.

The clothing of an infant is so simple a matter, that it is surprising how any person should err in it; yet many children lose their lives, and others are deformed by inattention to this article.

Nature knows of no use of clothes to an infant, but to keep it warm. All that is necessary for this purpose is to wrap it in a

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* The Lacedemonians condemned their king, Archidamus, for having married a weak, puny woman; because, said they, instead of propagating a race of heroes, you will fill the throne with a progeny of changelings.

† The Jews, by their laws, were, in certain cases, forbid to have any manner of commerce with the diseased; and, to this all wise legislators ought to have a special regard. In some countries diseased persons have actually been forbid to marry. This is an evil of a complicated kind, a natural deformity, and a political mischief; and therefore requires a public consideration.

soft loose covering. Were a mother left to the dictates of nature alone, she would certainly pursue this course. But the business of dressing an infant has long been out of the hands of mothers, and has at last become a secret which none but adepts pretend to understand.

From the most early ages it has been thought necessary, that a woman in labour should have some person to attend her. This in time became a business; and, as in all others, those who were employed in it strove to outdo one another in the different branches of their profession. The dressing of a child came of course to be considered as the midwife's province; who, no doubt, imagined, that the more dexterity she could show in this article the more her skill should be admired. Her attempts were seconded by the vanity of parents, who, too often desirous of making a show of the infant as soon as it was born, were ambitious to have as much finery heaped upon it as possible. Thus it came to be thought as necessary for a midwife to excel in bracing and dressing an infant as for a surgeon to be expert in applying bandages to a broken limb; and the poor child, as soon as it came into the world, had as many rollers and wrappers applied to its body as if every bone had been fractured in the birth; while these were often so tight, as not only to gall and wound its tender frame, but even to obstruct the motion of the heart, lungs, and other organs necessary to life.

In most parts of Britain, the practice of rolling children with so many bandages is now, in some measure, laid aside; but it would still be a difficult task to persuade the generality of mankind that the shape of an infant does not entirely depend on the care of the midwife. So far, however, are all her endeavours to mend the shape from being successful, that they constantly operate the contrary way, and mankind become deformed in proportion to the means used to prevent it. How little deformity of body is to be found among uncivilized nations! So little, indeed, that it is vulgarly believed they put all their deformed children to death. The truth is, they hardly know such a thing as a deformed child. Neither should we, if we followed their example. Savage nations never think of managing their children. They allow them the full use of every organ, carry them abroad in the open air, wash their bodies daily in cold water, &c. By this management their children become so strong and hardy, that by the time our puny infants get out of the nurse's arms, theirs are able to shift for themselves.*

Among brute animals, no art is necessary to procure a fine shape. Though many of them are extremely delicate when they come into the world, yet we never find them grow crooked for want of swaddling-bands. Is nature less generous to the human kind? No: but we take the business out of nature's hands.

Not only the analogy of other animals, but the very feelings of infants tell us, they ought to be kept easy and free from pressure. They cannot, indeed, tell their complaints, but they can show signs of pain; and this they never fail to do by crying when hurt by

* A friend of mine, who was several years on the coast of Africa, tells me, that the natives neither put any clothes upon their children, nor apply to their bodies bandages of any kind, but lay them on a pallet, and suffer them to tumble about at pleasure; yet they are all straight, and seldom have any disease.

their clothes. No sooner are they freed from their bracings than they seem pleased and happy; yet, strange infatuation! the moment they hold their peace they are again committed to their chains.

If we consider the body of an infant as a bundle of soft pipes, replenished with fluids in continual motion, the danger of pressure will appear in the strongest light. Nature, in order to make way for the growth of the children, has formed their bodies soft and flexible; and lest they should receive any injury from pressure in the womb, has surrounded the *fœtus* everywhere with fluids. This shows the care which nature takes to prevent all unequal pressure on the bodies of infants, and to defend them against every thing that might in the least cramp or confine their motions.

Even the bones of an infant are so soft and cartilaginous that they readily yield to the slightest pressure, and easily assume a bad shape, which can never after be remedied. Hence it is that so many people appear with high shoulders, crooked spines, and flat breasts, who were as well-proportioned at their births as others, but who had the misfortune to be squeezed out of shape by the application of stays and bandages.

Pressure, by obstructing the circulation, likewise prevents the equal distribution of nourishment to the different parts of the body, by which means the growth becomes unequal. One part grows too large, while another remains too small; and thus in time the whole frame becomes disproportioned and misshapen. To this we must add, that when a child is cramped in its clothes it naturally shrinks from the part that is hurt; and by putting its body into unnatural postures, it becomes deformed by habit.

Deformity of body may, indeed, proceed from weakness or disease; but, in general, it is the effect of improper clothing. Nine-tenths, at least, of the deformity among mankind must be imputed to this cause. A deformed body is not only disagreeable to the eye, but by a bad figure both the animal and vital functions must be impeded, and of course health impaired. Hence few people remarkably misshapen are strong or healthy.

The new motions which commence at the birth, as the circulation of the whole mass of blood through the lungs, respiration, the peristaltic motion, &c. afford another strong argument for keeping the body of an infant free from all pressure. These organs, not having been accustomed to move, are easily stopped; but when this happens, death must ensue. Hardly any method could be devised more effectually to stop these motions than bracing the body too tight with rollers* and bandages. Were these to be applied in the same manner to the body of an adult for an equal length of time, they would hardly fail to hurt the digestion and make him sick. How much more hurtful they must prove to the tender bodies of infants, we shall leave any one to judge.

Whoever considers these things will not be surprised that so many children die of convulsions soon after the birth. These fits are generally attributed to some inward cause; but in fact they

* This is by no means inveighing against a thing that does not happen. In many parts of Britain at this day, a roller, eight or ten feet in length, is applied tightly round the child's body as soon as it is born.

oftener proceed from our own imprudent conduct. I have known a child seized with convulsion-fits soon after the midwife had done swaddling it, who, upon taking off the rollers and bandages, was immediately relieved, and never had the disease afterwards. Numerous examples of this might be given were they necessary.

It would be safer to fasten the clothes of an infant with strings than pins, as they often gall and irritate their tender skins, and occasion disorders. Pins have been found sticking above half an inch into the body of a child after it had died of convulsion-fits, which in all probability proceeded from that cause.

Children are not only hurt by the tightness of their clothes, but also by the quantity. Every child has some degree of fever after the birth; and if it be loaded with too many clothes the fever must be increased. But this is not all; the child is generally laid in bed with the mother, who is often likewise feverish; to which we may add the heat of the bed-chamber, the wines and other heating things too frequently given to children immediately after birth. When all these are combined, which does not seldom happen, they must increase the fever to such a degree as will endanger the life of the infant.

The danger of keeping infants too hot will further appear, if we consider that, after they have been for some time in the situation mentioned above, they are often sent into the country to be nursed in a cold house. Is it any wonder if a child, from such a transition, catches a mortal cold, or contracts some other fatal disease? When an infant is kept too hot, its lungs, not being sufficiently expanded, are apt to remain weak and flaccid for life; hence proceed coughs, consumptions, and other diseases of the breast.

It would answer little purpose to specify the particular species of dress proper for an infant. These will always vary in different countries, according to custom and the humour of parents. The great rule to be observed is, *That a child have no more clothes than are necessary to keep it warm, and that they be quite easy for its body.*

Stays are the very bane of infants. A volume would not suffice to point out all the bad effects of this ridiculous piece of dress, both on children and adults. The madness in favour of stays, seems, however, to be somewhat abated; and it is to be hoped the world will, in time, become wise enough to know, that the human shape does not solely depend upon whalebone and bend leather.*

I shall only add with respect to the clothes of children, that they ought to be kept thoroughly clean. Children perspire more than adults, and if their clothes be not frequently changed, they become very hurtful. Dirty clothes not only gall and fret the tender skins of infants, but likewise occasion ill smells, and, what is worse, tend to produce vermin and cutaneous diseases.

Cleanliness is not only agreeable to the eye, but tends greatly to

* Stays, made of bend leather, are worn by all the women of lower station in many parts of England.

I am sorry to understand, that there are still mothers mad enough to lace their daughters very tight in order to improve their shape. As reasoning would be totally lost upon such people, I shall beg leave just to ask them, Why there are ten deformed women for one man? and likewise to recommend to their perusal a short moral precept, which forbids us to *deform the human body*.

preserve the health of children. It promotes the perspiration, and, by that means, frees the body from superfluous humours, which, if retained, could not fail to occasion diseases. No mother or nurse can have any excuse for allowing a child to be dirty. Poverty may oblige her to give it coarse clothes; but if she does not keep them clean, it must be her own fault.

Of the Food of Children.

Nature not only points out the food proper for an infant, but actually prepares it. This, however, is not sufficient to prevent some who think themselves wiser than nature from attempting to bring up their children without her provision. Nothing can show the disposition which mankind have to depart from nature more than their endeavouring to bring up children without the breast. The mother's milk, or that of a healthy nurse, is unquestionably the best food for an infant. Neither art nor nature can afford a proper substitute for it. Children may seem to thrive for a few months without the breast; but when teething, the small-pox, and other diseases incident to childhood come on, they generally perish.

A child, soon after the birth, shows an inclination to suck; and there is no reason why it should not be gratified. It is true, the mother's milk does not always come immediately after the birth; but this is the way to bring it; besides, the first milk that the child can squeeze out of the breast answers the purpose of cleansing better than all the drugs in the apothecary's shop, and at the same time prevents inflammations of the breast, fevers, and other diseases incident to mothers.

It is strange how people came to think that the first thing given to a child should be drugs. This is beginning with medicine betimes, and no wonder if they generally end with it. It sometimes happens, indeed, that a child does not discharge the *meconium* so soon as could be wished; this has induced physicians, in such cases, to give something of an opening nature to cleanse the first passages. Midwives have improved upon this hint, and never fail to give syrups, oils, &c. whether they be necessary or not. Cramming an infant with such indigestible stuff as soon as it is born can hardly fail to make it sick, and is more likely to occasion diseases than to prevent them. Children are seldom long after the birth without having passage both by stool and urine; though these evacuations may be wanting for some time without any danger. But if children must have something before they be allowed the breast, let it be a little thin water pap, to which may be added an equal quantity of new milk, or rather water alone, with the addition of a little moist sugar. If this be given without any wine or spiceries it will neither heat the blood, load the stomach, nor occasion gripes.

Upon the first sight of an infant, almost every person is struck with the idea of its being weak, feeble, and wanting support. This naturally suggests the need of cordials. Accordingly wines are universally mixed with the first food of children. Nothing can be more fallacious than this way of reasoning, or more hurtful to infants than the conduct founded upon it. Children require very lit-

tle food for some time after the birth, and what they receive should be thin, weak, light, and of a cooling quality. A very small quantity of wine is sufficient to heat and inflame the blood of an infant; but every person conversant in these matters must know, that most of the diseases of infants proceed from the heat of their humours.

If the mother or nurse has enough of milk, the child will need little or no other food for the third or fourth month. It will then be proper to give it, once or twice a-day, a little of some food that is easy of digestion, as water-pap, milk-pottage, weak broth with bread in it, and such like. This will ease the mother, will accustom the child by degrees to take food, and will render the weaning both less difficult and less dangerous. All great and sudden transitions are to be avoided in nursing. For this purpose the food of children ought not only to be simple, but to resemble, as nearly as possible, the properties of milk. Indeed, milk itself should make a principal part of their food, not only before they are weaned but for some time after.

Next to milk, we would recommend good light bread. Bread may be given to a child as soon as it shows an inclination to chew; and it may at all times be allowed as much plain bread as it will eat. The very chewing of bread will promote the cutting of the teeth, and the discharge of saliva, while, by mixing with the nurse's milk in the stomach, it will afford an excellent nourishment. Children discover an early inclination to chew whatever is put into their hands. Parents observe the inclination, but generally mistake the object. Instead of giving the child something which may at once exercise its gums and afford it nourishment, they commonly put into its hands a piece of hard metal, or impenetrable coral. A crust of bread is the best gum-stick. It not only answers the purpose better than any thing else, but has the additional properties of nourishing the child, and carrying the saliva down into the stomach, which is too valuable a liquor to be lost.

Bread, besides being used dry, may be many ways prepared into food for children. One of the best methods is to boil it in water, afterwards pouring the water off, and mixing with the bread a proper quantity of new milk unboiled. Milk is both more wholesome and nourishing this way than boiled, and is less apt to occasion costiveness. For a child farther advanced, bread may be mixed in veal or chicken broth, made into puddings, or the like. Bread is a proper food for children at all times, provided it be plain, made of wholesome grain, and well fermented; but when enriched with fruits, sugars, or such things, it becomes very unwholesome.

It is soon enough to allow children animal food when they have got teeth to eat it. They should never taste it till after they are weaned, and even then they ought to use it sparingly. Indeed, when children live wholly on vegetable food, it is apt to sour on their stomachs; but, on the other hand, too much flesh heats the body, and occasions fevers and other inflammatory diseases. This plainly points out a due mixture of animal and vegetable food as most proper for children.

Few things prove more hurtful to infants than the common

method of sweetening their food. It entices them to take more than they ought to do, which makes them grow fat and bloated. It is pretty certain, if the food of children were quite plain, that they would never take more than enough. Their excesses are entirely owing to nurses. If a child be gorged with food at all hours, and enticed to take it, by making it sweet and agreeable to the palate, is it any wonder that such a child should in time be induced to crave more food than it ought to have?

Children may be hurt by too little as well as by too much food. After a child is weaned it ought to be fed four or five times a-day; but should never be accustomed to eat in the night; neither should it have too much at a time. Children thrive best with small quantities of food frequently given. This neither overloads the stomach nor hurts the digestion, and is certainly most agreeable to nature.

Writers on nursing have inveighed with such vehemence against giving children too much food, that many parents, by endeavouring to shun that error, have run into the opposite extreme, and ruined the constitutions of their children. But the error of pinching children in their food is more hurtful than the other extreme. Nature has many ways of relieving herself when overcharged; but a child who is pinched with hunger will never become a strong or a healthy man. That errors are frequently committed on both sides we are ready to acknowledge; but where one child is hurt by the quantity of its food, ten suffer from the quality. This is the principal evil, and claims our strictest attention.

Many people imagine, that the food which they themselves love cannot be bad for their children; but this notion is very absurd. In the more advanced periods of life we often acquire an inclination for food which when children we could not endure. Besides, there are many things that by habit may agree very well with the stomach of a grown person, which would be hurtful to a child; as high-seasoned, salted, and smoke-dried provisions, &c. It would also be improper to feed children with fat meat, strong broths, rich soups, or the like.

All strong liquors are hurtful to children. Some parents teach their children to guzzle ale, and other fermented liquors, at every meal. Such a practice cannot fail to do mischief. These children seldom escape the violence of the small-pox, measles, hooping-cough, or some inflammatory disorder. Milk, water, butter-milk, or whey, are the most proper for children to drink. If they have any thing stronger, it may be fine small beer, or a little wine mixed with water. The stomachs of children can digest well enough without the assistance of warm stimulants; besides, being naturally hot, they are easily hurt by every thing of a heating quality.

Few things are more hurtful to children than unripe fruits. They weaken the powers of digestion, and sour and relax the stomach, by which means it becomes a proper nest for insects. Children, indeed, show a great inclination for fruit, and I am apt to believe, that if good ripe fruit were allowed them in proper quantity it would have no bad effects. We never find a natural inclination wrong if properly regulated. Fruits are generally of a cooling nature, and correct the heat and acrimony of the humours. This is what most children require; only care should be

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can do any thing for themselves, and to spend more on medicine than would have paid for proper care.

To take care of their children is the most useful business in which even the poor can be employed: but, alas! it is not always in their power. Poverty often obliges them to neglect their offspring in order to procure the necessaries of life. When this is the case, it becomes the interest as well as the duty of the public to assist them. Ten thousand times more benefit would accrue to the state by enabling the poor to bring up their own children, than from all the hospitals* that ever can be erected for that purpose.

Whoever considers the structure of the human body will soon be convinced of the necessity of exercise for the health of children. The body is composed of an infinite number of tubes, whose fluids cannot be pushed on without the action and pressure of the muscles. But, if the fluids remain inactive, obstructions must happen, and the humours will of course be vitiated, which cannot fail to occasion diseases. Nature has furnished both the vessels which carry the blood and lymph with numerous valves, in order that the action of every muscle might push forward their contents; but without action, this admirable contrivance can have no effect. This part of the animal economy proves to a demonstration the necessity of exercise for the preservation of health.

Arguments to show the importance of exercise might be drawn from every part of the animal economy; without exercise the circulation of the blood cannot be properly carried on, nor the different secretions duly performed; without exercise, the fluids cannot be properly prepared, nor the solids rendered strong or firm. The action of the heart, the motion of the lungs, and all the vital functions, are greatly assisted by exercise. But to point out the manner in which these effects are produced would lead us farther into the economy of the human body than most of those for whom this treatise is intended would be able to follow. We shall therefore only add, that when exercise is neglected, none of the animal functions can be duly performed; and when this is the case, the whole constitution must go to wreck.

A good constitution ought certainly to be our first object in the management of children. It lays a foundation for their being useful and happy in life; and whoever neglects it, not only fails in his duty to his offspring, but to society.

One very common error of parents, by which they hurt the constitutions of their children, is the sending them too young to school. This is often done solely to prevent trouble. When the child is at school, he needs no keeper. Thus the school-master is made the nurse; and the poor child is fixed to a seat seven or eight hours a-day, which time ought to be spent in exercise and diversions. Sitting so long cannot fail to produce the worst effects up-

* If it were made the interest of the poor to keep their children alive, we should lose very few of them. A small premium given annually to each poor family, for every child they have alive at the year's end, would save more infant lives than if the whole revenue of the crown were expended on hospitals for this purpose. This would make the poor esteem fertility a blessing; whereas many of them think it the greatest curse that can befall them; and in place of wishing their children to live, so far does poverty get the better of natural affection, that they are often very happy when they die.

on the body; nor is the mind less injured. Early application weakens the faculties, and often fixes in the mind an aversion to books which continues for life.*

But suppose this were the way to make children scholars, it certainly ought not to be done at the expense of their constitutions. Our ancestors, who seldom went to school very young, were not less learned than we. But we imagine the boy's education will be quite marred, unless he be carried to school in his nurse's arms. No wonder that such hot-bed plants seldom become either scholars or men!

Not only the confinement of children in public schools, but their number often proves hurtful. Children are much injured by being kept in crowds within doors; their breathing not only renders the place unwholesome, but if any one of them happen to be diseased, the rest catch the infection. A single child has been often known to communicate the bloody flux, the hooping-cough, the itch, or other diseases, to almost every individual in a numerous school.

But, if fashion must prevail, and infants are to be sent to school, we would recommend it to teachers, as they value the interests of society, not to confine them too long at a time, but allow them to run about and play at such active diversions as may promote their growth, and strengthen their constitutions. Were boys, instead of being whipped for stealing an hour to run, ride, swim, or the like, encouraged to employ a proper part of their time in these manly and useful exercises, it would have many excellent effects.

It would be of great service to boys, if, at a proper age, they were taught the military exercise. This would increase their strength, inspire them with courage, and when their country called for their assistance, would enable them to act in her defence, without being obliged to undergo a tedious and troublesome course of instructions, at a time when they are less fit to learn new motions, gestures, &c.†

An effeminate education will infallibly spoil the best natural constitution; and if boys are brought up in a more delicate manner than even girls ought to be, they will never be men.

Nor is the common education of girls less hurtful to the constitution than that of boys. Miss is set down to her frame before she can put on her own clothes; and is taught to believe, that to excel at the needle is the only thing that can entitle her to general esteem. It is unnecessary here to insist upon the dangerous consequences of obliging girls to sit too much. They are pretty well known, and are too often felt at a certain time of life. But supposing this critical period to be got over, greater dangers still wait

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* It is undoubtedly the duty of parents to instruct their children, at least till they are of an age proper to take some care of themselves. This would tend much to confirm the ties of paternal tenderness and filial affection, of the want of which there are at present so many deplorable instances. Though few fathers have time to instruct their children, yet most mothers have; and surely they cannot be better employed.

† I am happy to find that the masters of academies now begin to put in practice this advice. Each of them ought to keep a drill-serjeant for teaching the boys the military exercise. This, besides contributing to their health and vigour of body, would have many other happy effects.

[Gymnastic exercises are becoming justly popular, and their superiority over the warlike needs not to be told to Americans. Am. Ed.]

them when they come to be mothers. Women who have been early accustomed to a sedentary life, generally run great hazard in child-bed; while those who have been used to romp about, and take sufficient exercise, are seldom in any danger.

One hardly meets with a girl who can at the same time boast of early performances by the needle, and a good constitution. Close and early confinement generally occasions indigestions, headaches, pale complexions, pain of the stomach, loss of appetite, coughs, consumptions of the lungs, and deformity of body. The last of these, indeed, is not to be wondered at, considering the awkward postures in which girls sit at many kinds of needlework, and the delicate flexible state of their bodies in the early periods of life.

Would mothers, instead of having their daughters instructed in many trifling accomplishments, employ them in plain work and housewifery, and allow them sufficient exercise in the open air, they would both make them more healthy mothers, and more useful members of society. I am no enemy to genteel accomplishments, but would have them only considered as secondary, and always disregarded when they impair health.

Many people imagine it a great advantage for children to be early taught to earn their bread. This opinion is certainly right, provided they were so employed as not to hurt their health or growth; but, when these suffer, society, instead of being benefited, is a real loser by their labour. There are few employments, except sedentary ones, by which children can earn a livelihood; and if they be set to these too soon, it ruins their constitutions. Thus, by gaining a few years from childhood, we generally lose twice as many in the latter period of life, and even render the person less useful while he does live.

In order to be satisfied of the truth of this observation, we need only look into the great manufacturing towns, where we shall find a puny degenerate race of people, weak and sickly all their lives, seldom exceeding the middle period of life; or if they do, being unfit for business, they become a burden to society. Thus arts and manufactures, though they may increase the riches of a country, are by no means favourable to the health of its inhabitants. Good policy would therefore require, that such people as labour during life should not be set too early to work. Every person conversant in the breed of horses, or other working animals, knows, that if they be set to hard labour too soon, they will never turn out to advantage. This is equally true with respect to the human species.

There are, nevertheless, various ways of employing young people, without hurting their health. The easier parts of gardening, husbandry, or any business carried on without doors, are most proper. These are employments which most young people are fond of, and some parts of them may be always adapted to their age, taste, and strength.*

Such parents, however, as are under the necessity of employing their children within doors, ought to allow them sufficient time for

* I have been told that in China, where the police is the best in the world, all the children are employed in the easier part of gardening and husbandry; as weeding, gathering stones off the land, and such like.

active diversions without. This would both encourage them to do more work, and prevent their constitutions from being hurt.

Some imagine that exercise within doors is sufficient; but they are generally mistaken. One hour spent in running, or any other exercise without doors, is worth ten within. When children cannot go abroad, they may indeed be exercised at home. The best method of doing this, is to make them run about in a large room, or dance. This last kind of exercise, if not carried to excess, is of excellent service to young people. It cheers the spirits, promotes perspiration, strengthens the limbs, &c. I knew an eminent physician who used to say, that he made his children dance, instead of giving them physic. It were well if more people followed his example.

The cold bath may be considered as an aid to exercise. By it the body is braced and strengthened, the circulation and secretions promoted, and, were it conducted with prudence, many diseases, as rickets, scrofula, &c. might thereby be prevented. The ancients, who took every method to render children hardy and robust, were no strangers to the use of the cold bath; and, if we may credit report, the practice of immersing children daily in cold water must have been very common among our ancestors.

The greatest objection to the use of the cold bath arises from the superstitious prejudices of nurses. These are often so strong, that it is impossible to bring them to make a proper use of it. I have known some of them who would not dry a child's skin after bathing it, lest it should destroy the effect of the water. Others will even put cloths dipt in the water upon the child, and either put it to bed, or suffer it to go about in that condition. Some believe, that the whole virtue of the water depends upon its being dedicated to a particular saint; while others place their confidence in a certain number of dips, as three, seven, nine, or the like; and the world could not persuade them, if these do not succeed, to try it a little longer. Thus by the whims of nurses, children lose the benefit of the cold bath, and the hopes of the physician from that remedy are often frustrated.

We ought not, however, entirely to set aside the cold bath, because some nurses make a wrong use of it. Every child, when in health, should at least have its extremities daily washed in cold water. This is a partial use of the cold bath, and is better than none. In winter this may suffice; but in the warm season, if a child be relaxed, or seem to have a tendency to the rickets or scrofula, its whole body ought to be frequently immersed in cold water. Care, however, must be taken not to do this when the body is hot, or the stomach full. The child should be dipped only once at a time, should be taken out immediately, and have its skin well rubbed with a dry cloth.

The bad Effects of unwholesome Air upon Children.

Few things prove more destructive to children than confined or unwholesome air. This is one reason why so few of those infants who are put into hospitals, or parish-workhouses, live. These places are generally crowded with old, sickly, and infirm people;

by which means the air is rendered so extremely pernicious, that it becomes a poison to infants.

Want of wholesome air is likewise destructive to many of the children born in great towns. There the poorer sort of inhabitants live in low, dirty, confined houses, to which the fresh air has scarcely any access. Though grown people, who are hardy and robust, may live in such situations, yet they generally prove fatal to their offspring, few of whom arrive at maturity, and those who do are weak and deformed. As such people are not in a condition to carry their children abroad into the open air, we must lay our account with losing the greater part of them. But the rich have not this excuse. It is their business to see that their children be daily carried abroad, and that they be kept in the open air for a sufficient time. This will always succeed better if the mother goes along with them. Servants are often negligent in these matters, and allow a child to sit or lie on the damp ground, instead of leading or carrying it about. The mother surely needs air as well as her children; and how can she be better employed than in attending them?

A very bad custom prevails, of making children sleep in small apartments, or crowding two or three beds into one chamber. Instead of this, the nursery ought always to be the largest and best aired room in the house. When children are confined in small apartments, the air not only becomes unwholesome, but the heat relaxes their solids, renders them delicate, and disposes them to colds and many other disorders. Nor is the custom of wrapping them too close in cradles less pernicious. One would think that nurses were afraid lest children should suffer by breathing free air, as many of them actually cover the child's face while asleep, and others wrap a covering over the whole cradle, by which means the child is forced to breathe the same air over and over all the time it sleeps. Cradles, indeed, are on many accounts hurtful to children, and it would be better if the use of them were totally laid aside.*

A child is generally laid to sleep with all its clothes on; and if a number of others are heaped above them it must be overheated: by which means it cannot fail to catch cold on being taken out of the cradle, and exposed to the open air with only its usual clothing, which is too frequently the case.

Children who are kept within doors all day, and sleep all night in warm close apartments, may, with great propriety, be compared to plants nursed in a hot-house, instead of the open air. Though such plants may by this means be kept alive for some time, they will never arrive at that degree of strength, vigour, and magnitude,

* It is amazing how children escape suffocation, considering the manner in which they are often rolled up in flannels, &c. I lately attended an infant, whom I found muffled up over head and ears in many folds of flannel, though it was in the middle of June. I begged for a little free air to the poor babe; but though this indulgence was granted during my stay, I found it always on my return in the same situation. Death, as might be expected, soon freed the infant from all its miseries: but it was not in my power to free the minds of its parents from those prejudices which proved fatal to their child.

I was very lately called to see an infant which was said to be expiring in convulsion fits. I desired the mother to strip the child, and wrap it in a loose covering. It had no more convulsion fits.

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they be certain poison to infants, are every day administered by many who bear the character of very good nurses.*

A nurse who has not milk enough is apt to imagine that this defect may be supplied by giving the child wines, cordial waters, or other strong liquors. This is an egregious mistake. The only thing that has any chance to supply the place of the nurse's milk, must be somewhat nearly of the same quality, as cow's milk, ass's milk, or beef tea, with a little bread. It never can be done by the use of strong liquors. These, instead of nourishing an infant, never fail to produce the contrary effect.

Children are often hurt by nurses suffering them to cry long and vehemently. This strains their tender bodies, and frequently occasions ruptures, inflammations of the throat, lungs, &c. A child never continues to cry long without some cause, which might always be discovered by proper attention; and the nurse who can hear an infant cry till it has almost spent itself, without endeavouring to please it, must be cruel indeed, and is unworthy to be intrusted with the care of a human creature.

Nurses who deal much in medicine are always to be suspected. They trust to it and neglect their duty. I never knew a good nurse who had her Godfrey's Cordial, Daffey's Elixir, Dalby's Carminative, &c. at hand.† Such nurses generally imagine that a dose of medicine will make up for all defects in food, air, exercise and cleanliness. By errors of this kind, I will venture to say, that one half the children who die annually in London lose their lives.

Allowing children to continue long wet, is another very pernicious custom of indolent nurses. This is not only disagreeable, but it galls and frets the infant, and, by relaxing the solids, occasions scrophula, rickets, and other diseases. A dirty nurse is always to be suspected.

Nature often attempts to free the bodies of children from bad humours, by throwing them upon the skin; by this means fevers and other diseases are prevented. Nurses are apt to mistake such critical eruptions for an itch, or some other infectious disorder. Accordingly they take every method to drive them in. In this way many children lose their lives; and no wonder, as Nature is opposed in the very method she takes to relieve them. It ought to be a rule, which every nurse should observe, never to stop any eruption without proper advice, or being well assured that it is not of a critical nature. At any rate, it is never to be done without previous evacuations.

Loose stools is another method by which Nature often prevents or carries off the diseases of infants If these proceed too far, no doubt they ought to be checked; but this is never to be done without the greatest caution. Nurses, upon the first appearance of loose stools, frequently fly to the use of astringents, or such things as bind the body. Hence inflammatory fevers, and other fatal diseases, are occasioned. A dose of rhubarb, a gentle vomit, or some

* If a mother on visiting her child at nurse finds it always asleep, I would advise her to remove it immediately; otherwise it will soon sleep its last.

† See *Mother's Medical Pocket*, p. 70, 71.

other evacuation, should always precede the use of astringent medicines.

One of the greatest faults of nurses is, concealing the diseases of children from their parents. This they are extremely ready to do, especially when the disease is the effect of their own negligence. Many instances might be given of persons who have been rendered lame for life by a fall from their nurse's arms, which she, through fear, concealed till the misfortune was past cure. Every parent who intrusts a nurse with the care of a child, ought to give her the strictest charge not to conceal the most trifling disorder or misfortune that may befall it.

We can see no reason, why a nurse who conceals any misfortune which happens to a child under her care, till it loses its life or limb, should not be punished. A few examples of this would save the lives of many infants; but as there is little reason to expect that it ever will be the case, we would earnestly recommend it to all parents to look carefully after their children, and not to trust so valuable a treasure entirely in the hands of a hireling.

No person ought to imagine these things unworthy of his attention. On the proper management of children depend not only their health and usefulness in life, but likewise the safety and prosperity of the state to which they belong. Effeminacy ever will prove the ruin of any state where it prevails; and, when its foundations are laid in infancy, it can never afterwards be wholly eradicated. Parents who love their offspring, and wish well to their country, ought, therefore, in the management of their children, to avoid every thing that may have a tendency to make them weak or effeminate, and to take every method in their power to render their constitutions strong and hardy—

> ——— By arts like these
> Laconia nurs'd of old her hardy sons;
> And Rome's unconquer'd legions urg'd their way,
> Unhurt, thro' every toil in every clime.
> [*Armstrong.*

Few things tend more to the destruction of children than drenching them with drugs. That medicine may be *sometimes* necessary for children, I do not deny; but that it hurts them ten times for once it does them good, I will venture to assert. A London mother, the moment her child seems to ail any thing, runs immediately to the apothecary, who throws in his powders, pills, and potions, till the poor infant is poisoned; when the child might have been restored to perfect health by a change of diet, air, exercise, clothing, or some very easy and simple regulation.

But misguided fondness is not satisfied with drugging children from the apothecary's shop, many of them are *fed* from the same quarter. A starch from the West Indies, called Flour of Arrow-root, is the food of those infants whose parents can afford to pay for it. I lately offended a mother very much by saying, it was not half so good as oatmeal, though more than ten times the price. Of this, however, she had sufficient proof by a child in her arms, who had been fed on that root, and, though a year and a half old, could scarcely put a foot to the ground, while her neighbour's child, only nine months old, but nursed in the north country manner, could,

by a hold of the finger, run all over the house. I have taken notice of this powder, to show the influence of fashion even in the feeding of an infant. I wish it were the only instance I could give of the fatal effects of the same cause. Ten thousand infants in this island, before they are out of the nurse's arms, sip tea twice a-day, which to be sure is the true way to propagate heroes.

CHAP. XII.

OF COLD-BATHING, IN FRESH AND SALT WATER, WITH REMARKS ON THE CASES IN WHICH THE WARM BATH IS MORE ADVISABLE.

The cold bath, at the temperature of sixty-five degrees, is that, which, in this country, is most generally employed.

Immersion in cold water is a custom which lays claim to the most remote antiquity. Indeed, it must have been coeval with man himself. The necessity of water for the purpose of cleanliness, and the pleasure arising from its application of the body in hot countries, must very early have recommended it to the human species. Even the example of other animals was sufficient to give the hint to man. By instinct, many of them are led to apply cold water in this manner; and some, when deprived of its use, have been known to languish, and even to die. But whether the practice of cold-bathing arose from necessity, reasoning, or imitation, is an enquiry of little consequence: our business is to point out the advantages which may be derived from it, when judiciously resorted to, and the danger attending its improper use.

People are apt to imagine that the simple element of water can do no hurt, and that they may plunge into it at any time with impunity. In this, however, they are much mistaken. I have known apoplexies occasioned by going into the cold bath,—fevers excited by staying too long in it,—and other maladies so much aggravated by its continued use as to become absolutely incurable. Without a proper discrimination with regard to the disease and the constitution of the patient, the most powerful medicine is more likely to do harm than good. The physician, who cured Augustus by cold-bathing, killed his heir by the very same prescription. This induced the Roman senate to make laws for regulating t' e baths, and preventing the numerous evils which arose from an imprudent and promiscuous use of those elegant and fashionable pieces of luxury. But as no such laws exist in this country, *every one does that which is right in his own eyes*, and of course many must do wrong. I hope, however, that when better informed, they will learn to correct errors of so fatal a tendency.

Absurd prejudices against cold-bathing are not less blameable on the other hand. Though it should never be prescribed for *the cure of diseases*, without well considering the nature of each case, it cannot be too earnestly or too generally recommended as *a preservative of health*. I am, therefore, sorry to see some modern writers attempting to revive the whimsical and long exploded doctrine of Galen, who said, that immersion in cold water was fit only for the

young of lions and bears; and that warm-bathing was conducive to the growth and strength of infants. How egregiously do the greatest men err, whenever they lose sight of facts, and substitute sallies of wit or specious arguments in physic for observations and experience! By these superior excellence of the cold-bath is placed beyond the possibility of a doubt. Its tonic powers are found to be peculiarly proper for the lax fibres of young people, rendering them firm and elastic, and enabling the vital organs to perform their respective functions with ease and regularity.

In other parts of this work I had occasion to describe, with greater minuteness than is now necessary, the many good effects of washing children; and I gave a few directions as to the manner of employing this very salutary operation, from the moment of their birth. I showed how the use of the cold bath might be gradually brought about with the utmost safety; and I am persuaded that those who give it a fair trial will readily comply with my farther advice to continue it ever after, except in such cases of indisposition or infirmity as I shall presently notice. Nothing contributes more to the growth, vigour, and firmness of youth, or to the activity and permanent health of manhood, than daily immersion in cold water. It steels the frame against changes of weather, against the impressions of cold or moisture, and many other external injuries. It is of course the best preventive of all those diseases which arise from a relaxed skin, obstructed or profuse perspiration, and nervous weakness.

When the cold bath is used merely as a means of preserving health, in which point of view I am now considering it, a single plunge or dip of the whole body will be sufficient, though active swimmers may continue their favourite amusement for five or six minutes without injury. Any longer stay might prove dangerous, by not only occasioning a strong determination of blood to the head, but chilling the vital fluid, cramping the muscles, relaxing the nerves, and wholly defeating the intention of bathing. For want of a due regard to these circumstances, young men have often endangered, and sometimes lost their lives. In all cases, it is highly necessary to be rubbed dry at the instant of coming out of the water, and to take exercise for at least half an hour after. A little exercise is also advisable before bathing, so as to excite a gentle glow or temperate degree of warmth, and thus guard against the bad consequences of a too sudden shock, when the body is either chilly or overheated.

The like caution should be given against plunging into cold water after dinner, or after much fatigue. For these and many other reasons, the morning is very properly recommended to persons in health as the best time for bathing. It is the least likely to interfere with their other pursuits or concerns: it washes away any particles of the perspirable matter that may have remained on the surface of the skin, before they can be re-absorbed; it affords fresh supplies of vigour and alacrity, to enter upon the duties of the day; and, as I have already hinted, it fortifies the body against any changes of weather to which it may be afterwards exposed in a far lighter element.

In a state of perfect health, it may be further observed, that peo-

ple need not give themselves much trouble to enjoy the advantages of sea-bathing in preference to river-water, as the grand effect of both is nearly the same, though some considerations of less moment may concur to render the former more inviting. Among these we must reckon the usual resort of gay company to different parts of the coast in summer, the refreshing coolness of the sea-air in that season, and the agreeable stimulus which many persons experience from the action of saline particles, not only in the water, but when they are floating in the atmosphere. It should also be considered, that the temperature of the sea is more uniform than that of rivers, never rising so high, or sinking so low, in any change of weather. But such points of difference are chiefly interesting to valetudinarians.

What I have said of the cold-bath, when used as the means of preventing disease, will throw some light on the propriety of occasionally resorting to it as an important remedy. In cases of peculiar delicacy and danger, it is an instrument which can only be entrusted to the most skilful hands; but in many other less critical situations, a few plain rules may be of considerable service.

The first object to be attended to in the use of the cold-bath, as a remedy, is, whether the patient is not too much enfeebled to bear the shock. This cannot always be determined by appearances; but a single experiment will remove all doubt. If the immersion be followed by a pleasant glow, and a sense of increasing alacrity, it is the best proof of its agreeing with the constitution, and of its being likely to have a happy influence on the whole frame. Hence the cold-bath is found to be an excellent bracer and restorative in cases of languor, of habitual lassitude, and of muscular or nervous weakness, when arising from much confinement, a sedentary life, intense study, or any of the usual causes of relaxation. But it is always understood, that, in every instance of this sort, a sufficient strength of original stamina still remains to produce a proper reaction of the heart and arteries, upon which all the salutary effects of bathing depend.

The great efficacy of the cold bath, and particularly of sea-bathing, has often been experienced in scrofulous complaints, which are always attended with a relaxation of the fibres, and a strong disposition to languor and indolence. In such cases, sea-bathing is not only recommended as a tonic, or bracer, but as a powerful detergent and purifier also, especially if the sea-water be used internally at the same time. No difference of opinion prevails on this head, as far as it relates to the scrofula, but it has been alleged, that sea-bathing, though a good preventive of the scrofula, could not remove the local effects of the disease when once formed. My own practice in the treatment of scrofulous affections has not been extensive enough to enable me to speak to this point with a tone of confidence; but the contrary doctrine appears to me supported by the fairest reasoning, and, what is more, by indisputable facts.

In the first place, a weak flaccid habit, and a thin skin, very susceptible of impressions from cold moist air, are the principal, if not the only predisposing causes of the scrofula. Now the cold-bath is the best remedy for both, as it renders the texture of the skin firm, and invigorates the system. By being therefore so well adapted

to obviate causes, it must, according to one of the surest maxims of medical practice, be very fit to remove effects.

The justness of such an inference has been placed beyond a doubt, by the reports of men of professional eminence and veracity, under whose direction, and immediate inspection also, sea-bathing has been known to resolve swellings of the glands, as well as to correct the discharge of scrofulous ulcers, and to dispose them to heal. I am therefore very willing to believe, that a regular course of sea-bathing, and the internal use of sea-water, with the aid of good air, proper exercise, and a light, yet nourishing diet, are the best means hitherto discovered for checking the progress of the evil, or counteracting its morbid effects.

But, in order to prevent any possible misconception of my meaning, it may be necessary to add, that my opinion of the efficacy of sea-water in scrofulous complaints, is confined to its probable removal of the *outward symptoms* of the malady, *before these have arrived at a certain pitch*, or *have reduced the patient to a state of extreme debility;* in which case, as well as in all *internal affections* of the scrofula, when it has once fastened upon the lungs, or any other vital part, bathing in the sea, or drinking its waters, would be not only useless, but extremely injurious.

It would also imply too great a confidence in the salutary virtues of sea-bathing, to prescribe it as a remedy for cutaneous disorders in general. To many of them the warm-bath is much better adapted; and the proper choice of the one or the other can only be determined by a skilful physician, after a due consideration of the patient's ease. Some eruptions, if imprudently repelled by the action of cold on the skin, may carry back into the habit the seeds of disease, to be deposited, perhaps, on some vital part, in spite of Nature's kind efforts to throw them off. But a medical man will not prescribe sea-bathing in any case where pimples or blotches appear on the surface, without recommending the internal use of the sea-water at the same time, to determine regularly and moderately to the bowels, so as to carry off all impurities, without the least injury to the general health, spirits, or appetite. I shall have occasion to repeat this caution, when I come to speak of some mineral waters, which are frequently resorted to for the cure of similar complaints.

Though, as before observed, there may be very little difference between the effects of sea-water and of river-water of the same temperature, when applied to a sound skin and healthy body, yet the gently stimulant, detergent, and healing properties of the saline impregnation of the former must give it a decisive superiority in many diseases of the surface and habit. It cleanses sores, and forwards the progress of granulation. It often disperses tumours that have resisted the most powerful discutient medicines. Even deeply-seated ulcers, though beyond the reach of other applications, sometimes yield to the penetrating action of sea-water. We must not forget, however, that its internal use is a necessary auxiliary in all these cases, and others of a similar nature. About half a pint of it, which contains somewhat more than a quarter of an ounce of salts, taken in the morning, immediately on coming out of the sea, and the like dose in half an hour after, will com-

monly answer the purpose of a mild purgative. The quantity may be augmented, or the dose repeated, if requisite, with perfect safety, and little inconvenience. It excites thirst, but seldom nausea, unless the stomach is very irritable, or the patient very squeamish.

In chronic diseases, where a cure cannot be expected but from the long-continued use of any remedy, it is a great recommendation of the sea-water, that it may be persevered in for a considerable time, without weakening the stomach, the intestines, or the constitution in general. Instances frequently occur of persons who keep the body moderately open by its daily use for months together, and yet enjoy during the whole time a good appetite, and excellent powers of digestion, with increased vigour both of body and mind. It is always most advisable to make use of the sea-water externally and internally, in the manner here directed, only twice or three times a-week, till the patient is encouraged by degrees to employ the salutary process every day. It should also be gradually discontinued in the same manner, after the desired end is obtained.

There are several disorders, besides those already mentioned, particularly ardent fevers, and various cases of local inflammation and muscular rigidity, in which the external application of cold water may produce good effects. But many of them require great accuracy of distinction, as well as the utmost judgment and caution in the use of a remedy, which a small mistake, or a small change of circumstances, may render hazardous. In a work like this, designed for popular instruction, it would be improper to encourage rash experiments, by pointing out such niceties in medical practice as are safe only when under the guidance of medical skill. I do not know any thing in its own nature so salutary, and yet so liable to be abused, as the cold-bath. I shall therefore proceed to touch upon the cases, where the inconsiderate or improper application of such a remedy may prove injurious, and sometimes fatal.

It is not merely in the critical cases just alluded to, but in many slighter indispositions, that injudicious immersion in cold water may be attended with very serious consequences. Fevers are much oftener produced than cured by cold-bathing, if rashly resorted to. Disorders of the intellectual functions, palsies, apoplexies, and death, may be, and are frequently occasioned by a single dip, in cases either of *extreme nervous debility* or of *extreme fulness*. When I reflect on the frantic precipitancy with which I have seen many persons of very weak, and others of very plethoric habit, after a rapid journey from London to some watering-place, plunge instantly into the sea, without the least preparation, so far from being surprised at the numbers who suffer, I am rather astonished that any should escape. In order to prevent the ignorant and the thoughtless from falling victims to their indiscretion, and to guard persons afflicted with particular complaints against the use of an improper medicine, I shall point out the principal indispositions, in which the cold-bath would be likely to aggravate the symptoms, and even to endanger the life of the patient.

Effects of Cold-Bathing, &c.

When a person in the ordinary state of health is immersed in a

cold-bath, he first experiences a general sensation of cold, which is almost immediately succeeded by a general sensation of warmth, the latter rapidly increasing, so as to cause the surrounding water to feel of an agreeable temperature. If the immersion has been sudden and momentary, and the body be immediately dried and covered from the air, the agreeable sensation of warmth continues, the whole body feels refreshed and invigorated, and, under favourable circumstances, the natural perspiration is increased. If, however, the immersion be continued for a considerable time, and the water be not at the highest range of the temperature assigned to the cold-bath, the sensation of warmth goes off, and is followed by numbness and shivering, the skin becomes pale and contracted, the vessels near the surface of the body are evidently diminished in diameter, and the blood which flows through them is drawn towards the internal parts; the person feels drowsy and inactive, his joints become rigid and inflexible, his limbs are affected with pain and cramps, his respiration becomes quick and irregular, his pulse low and small, and his perspiration suppressed. If the immersion be still continued, or if the water be very cold, the pulse gradually ceases, the action of the heart becomes weak and languid, a sensation of faintness and coldness of the stomach is experienced, followed by a rapid diminution of the whole animal heat; the vital energy at length becomes exhausted, and death ultimately ensues.

In the preceding description, it is supposed that the body has been suddenly plunged into the water; if, as it often happens with weak or timid people, the bather enters the bath slowly, or if the water is much below sixty degrees, the sensation of cold is more striking, a shivering is produced, and as the person advances so as to make the water rise towards the belly and chest, a shuddering and convulsive sobbing takes place, sometimes attended with sickness and head-ache.

Cautions to be Observed, &c.

When, therefore, cold-bathing occasions chillness, loss of appetite, listlessness, pain of the breast or bowels, a prostration of strength, or violent head-achs, it ought to be discontinued. These unpleasant sensations are the surest proofs, that the actual state of the patient's habit is unfit to bear the shock; and that either the re-action of the heart and arteries is too weak to overcome the cold pressure on the surface, or that the determination to the head, or to some other vital part, is too rapidly increased. Every body's feelings, after immersion in cold water, are the best criterion by which we can decide on the probability of its good or its bad effects. We might otherwise be deceived by appearances, and be induced to recommend the cold-bath in all cases that might seem to require a tonic and stimulant plan of cure.

But it may sometimes be dangerous, or at least very detrimental, to make even a single experiment. In particular affections of the stomach and bowels, as well as in diseases of the lungs or of the brain, and all obstinate obstructions, the effect may be fatal. The late Dr. Smollet, indeed, said, that if he were persuaded he

had an ulcer in the lungs, he would jump into the cold bath. In doing so, however, the Doctor would certainly show more courage than discretion; and that he was more a man of wit than a physician, every one will allow. A nervous asthma, or an atrophy, may be mistaken for a pulmonary consumption: yet, in the two former, the cold bath proves often beneficial, though I never knew it so in the latter. Indeed, all the phthisical patients I ever saw, who had tried the cold bath, were evidently hurt by it.

Persons of very full habits, as I have already hinted, run a great risk of bursting a blood vessel, or of causing an inflammation of some important organ, by rushing into the cold bath, without due preparation. People of this description ought by no means to bathe, unless the body has been previously prepared by suitable evacuations. They will then derive the utmost benefit from what might be otherwise attended with irreparable injury to many of them.

Though I recommend the cold-bath in cases of nervous weakness, yet *the degree* of that weakness should be considered, lest the shock might prove too powerful for extreme debility. Not only women of very weakly and delicate habits, but men also in the same predicament, as well as puny children, should begin with the warm-bath, at the same degree nearly as that of animal heat, about 96° of Fahrenheit's thermometer; and reduce it gradually in proportion to the increase of the patient's strength and internal powers of re-action. The cold-bath is often very necessary to complete a cure, though not always advisable to begin with. This requires particular illustration.

In hysteric and hypochondriac cases, cold-bathing at first has done the greatest mischief, though it may be finally resorted to with good effect, after a preparatory and long continued use of the tepid or lukewarm bath. Its warmth must be diminished very slowly, and almost imperceptibly. Nature revolts against all great transitions; and those who do violence to her dictates, have often cause to repent of their temerity.

The like gradual diminution of the temperature of the water is no less proper in rheumatic complaints, and in those muscular contractions and convulsive motions which are called *St. Vitus's Dance.*

Indeed, it may be laid down as a pretty general rule in that branch of nervous disorders which includes spasms, convulsions, epilepsies, and similar consequences of the debility or irritability of the system, that we should always begin with the warm-bath, and proceed to the cold by the most pleasing and gentle gradations.

The chief exceptions to this rule occur in the treatment of spasmodic affections of the intestines, hooping coughs, and convulsive asthmas, in which, though classed under the general head of spasms, the cold-bath would at any time be extremely improper. But this prohibition is also implied in my remark on complaints of the bowels and chest in general, the latter including coughs of every description. When these are the mere consequences of slight irritation, or cold, bathing the lower extremities in warm water affords great relief; but immersing the whole body in either the

warm or the cold bath, would only aggravate the symptoms, when the breathing is difficult.

As palsies are often occasioned by the inconsiderate use of the cold-bath, it cannot be too strictly prohibited, where any paralytic symptoms are discoverable. There is no complaint that bears and requires a greater degree of external heat than the palsy, and there is none in which the shock of cold water is more directly opposite to every curative indication. The hot-baths, therefore, whether natural or artificial, and particularly if impregnated with salt, which increases their stimulus, are employed as a sovereign remedy for paralytic affections. Friction, which should never be neglected after bathing, is in these cases of eminent service.

In affections of the nervous coat of the stomach, and in cases of indigestion, especially when occasioned by intemperance, cold-bathing is as improper as in complaints of the bowels, before taken notice of. But it is the excess of folly, after immoderate drinking, to use the cold-bath with a view of alleviating its painful effects next day. It must increase the disorder of the stomach, the violence of the head-ach, and the derangement of the circulation. It may be productive of still worse consequences. The cooling operation may prove far more powerful and more lasting than was expected, and may extinguish forever the remains of animal heat; or, should nature, by extraordinary efforts, be able to resist the shock, it would probably be attended with symptoms of fever, or with very troublesome eruptions. Many painful affections of the head, as well as those which arise from intoxication, are, indeed, often relieved by what is called the *shower-bath*, or by the affusion of cold water on the part affected, but never by the rash experiment of swimming, or of total immersion.

I must take this opportunity to add, that the *shower-bath* is in many other respects a valuable contrivance. It may be easily procured: its actions can be regulated at pleasure; and as the water descends like rain, it gently impels the blood towards the lower extremities, and prevents the danger which would arise from its sudden or too rapid determination to the lungs and head in some of the cases already mentioned.

In uterine hæmorrhages, and other fluxes of blood, when so considerable as to endanger the patient's life or constitution, cold water may be applied with good effect. It also forms a part of the tonic plan to be pursued in an immoderate flow of the *menses;* nor is any thing more likely to prevent the return of this complaint than cold-bathing or drinking chalybeate waters in the intervals of menstruation. But when the discharge of blood is critical, as in some affections of the brain, lungs, &c. or is become habitual, as in the piles, to check so salutary an evacuation by the use of the cold-bath would be the height of madness. This is no less true of many critical inflammations, those of the gout for instance, in which cold water or any other repellent would evidently counteract the purposes of nature, and very probably throw the disorder upon some vital part. What is called the *retrocedent* gout frequently arises from some mismanagement of this sort, as well as from some particular weakness or atony of the system. Cold-bathing is a very hazardous experiment to be made by persons subject to the gout, except

in the absence of the symptoms, when no indisposition is felt in either the head or stomach, when the extremities are not threatened with pain; and then only in concurrence with the best medical advice.

Bathing the lower extremities in warm water is generally and very properly recommended both in the retention and suppression of the *menses*, to excite the action of the uterine vessels, and, in the latter case, to remove any stricture of those vessels which may be induced by cold or fear. A skilful physician, however, will sometimes meet with cases of a retention of the *menses* after the usual age, in which the cold-bath, if seasonably used at the beginning of the disease, may contribute to restore the tone of the system.

The delicacy and general irritability of the habit in a state of pregnancy, as well as the danger of too great a determination of the blood to the womb, clearly forbid the use of the cold-bath, unless it should be rendered advisable by some circumstances of a peculiar nature, of which a medical man of skill and experience is the only proper judge.

It is a great and often a fatal mistake to rely on the tonic powers of the cold-bath as the best means of repairing the injury done to the constitution by the relaxing influence of hot climates. People, on their return to England, after having resided in the East or West Indies, would find the warm-bath not only safer, but far more conducive to the recovery of their former strength. I would not have them venture into a bath of a temperature under 90° for a considerable time, after which they may gradually diminish its warmth, as before recommended in cases of *extreme debility*.

I might here go into farther details, and show how much more salutary the warm-bath is than the cold in diseases of the liver and kidneys, and in numerous other cases of internal derangement; but the principles, which I have laid down, may be easily extended to them all; and I hope that the cautions I have given will operate as some check on the abuse of the most powerful means of preserving and restoring health, with which we are acquainted.

Some years ago a foreign quack made a great deal of noise in this country with his medicated baths, but, like other follies of the day, they are now almost sunk into oblivion. A few writers have also been very lavish of their panegyrics on the wonderful effects of vapour-baths as used in Russia: but I do not think that the inhabitants of these milder regions will ever have occasion to envy the rigid fibres of the north the enjoyment of such fanciful luxuries. The strength of steam is, perhaps, better known and more usefully employed in England than in any quarter of the globe; but we meet with very few cases, where its intense action on the surface of the human body can be deemed essentially necessary either for the prevention or the cure of diseases. Surely the skin of an Englishman may be rendered perspirable by a much gentler stimulus, and without the aid of so troublesome and suffocating a process.

CHAP. XIII.

OF MINERAL WATERS.

Waters holding minerals in solution are called mineral waters. But as all water, in a mineral state, is, either more or less impregnated with some mineral substances, the name *mineral waters* should be confined to those that are sufficiently impregnated with mineral matter to produce some sensible effects on the animal economy, and either to cure or prevent some of the diseases to which the human body is liable. On which account, these waters with much more propriety might be called *medicinal waters*, were not the name by which they are commonly known too firmly established by long use.

The mineral waters most esteemed, consequently those most frequently resorted to for the cure of diseases, are those of

Aix, in Provence,	Harrowgate,	Spa,
Barege,	Hartfell,	Sedlitz,
Bath,	Holywell,	Sea-water,
Bristol,	Leamington,	Seltzer,
Buxton,	Malvern,	Tunbridge,
Borset,	Matlock,	Vechy, and others
Cheltenham,	Moffat,	of less note.
Carlsbad,	Pyrmont,	
Epsom,	Scarborough,	

It is scarcely possible to read without a smile the numberless books, essays, and pamphlets, which have been written on this subject. It seems to be the favourite region for the exercise of fiction and fancy. The traditionary tales of ancient miracles, said to be wrought by holy wells and consecrated springs, do not much surpass in extravagance the modern cures ascribed to those favourite haunts of valetudinarians by fraud, ignorance, and credulity. In printed *Guides*, as they are called, or *Pocket Companions*, to any of those fountains of health, it may be excusable to amuse us with a little romance; but we are sorry to find the same spirit pervading many medical treatises which should be distinguished by the most sacred regard for truth, and a just contempt of puerile embellishments.

Some allowance indeed should be made for the influence of local prejudices, and for the strong bias of interest and ambition on the mind of a professional man, who, residing near one of those springs, has, perhaps, no other means of acquiring popularity and reputation, but by an encomium on its virtues, and a description, quite in the poetical style, of the beauties of the surrounding scenery. The latter is, indeed, a harmless puff; it seldom deceives any body; but is viewed in the same light as an auctioneer's advertisement of an estate, where frightful chasms are often described as curious grottos, a few furze-bushes as a shrubbery laid out by the finger of Nature, and a gallows as a hanging-wood. There is another particular, in which those highly-coloured landscapes that form the

introductory part of almost every treatise on a medicinal spring, may defeat the proposed end, and that is, by exciting a reasonable suspicion that those waters are chiefly indebted for the high reputation of their efficacy to local circumstances, to the pleasant walks and rides, or the delightful prospects round them.

A display of all the attractions of the favourite spot is commonly followed by very minute details of chemical analysis, which are just of as little use to the generality of readers as the description of the scenery. A knowledge of the contents of any mineral water by no means implies a knowledge of its medical properties. These are to be learned by repeated experiments. Were it not for the evidence of facts, the late discoveries in chemistry, as far as they respect the analysis of mineral waters, would only tend to lessen their credit, by showing the little difference between them and any common water of the same purity and temperature. For instance, if we confined ourselves to mere speculation on the subject, how could we suppose that a quarter of a grain of the oxyd of iron suspended by a little fixed air in a whole quart of Tunbridge water, the largest quantity usually taken in the course of a day, could produce any remarkable or peculiar effects? The same thing might be said of the most celebrated springs in the kingdom; and many physicians of great professional eminence, arguing from this principle, have not hesitated to assert, that the cures performed by those springs were not owing to the ingredients with which they were impregnated, but to the simple elementary part, or what may be called pure water. It would not be easy therefore to determine, whether chemical analysis has furnished more arguments in favour of, or against, the boasted superiority of mineral waters.

Dr. Falconer, the author of one of the very few books relative to this subject, that contain something more than the gratification of idle curiosity, candidly confesses, that "chemical analysis, as far as it has been hitherto prosecuted, seems to give us a very imperfect view of the methods by which these effects (*i. e.* the medicinal effects of the Bath-waters) have been produced; and this circumstance has induced several persons to deny the truth of the facts altogether, or to represent them as highly exaggerated, and that such advantages (if any) as might be in truth received, were owing to collateral circumstances of uncertain and indeterminate efficacy, as change of air, diet, manner of life, and the like."

It is not therefore to the landscape-painter, or to the chemist, that we must look for any useful information on those points, but to the modest and judicious practitioner, who, like the author now quoted, watches with care, and reports with fidelity, the bad as well as the good effects of the waters he describes, the instances of their failure, as well as of their success, in various disorders. I am sorry to add, that the fund of such truly valuable materials is as yet very scanty, and that I must confine myself to general remarks on the most frequented of our medical springs, so as to direct invalids to the fountain, from the use of which they may form some reasonable hopes of relief. As more particular instructions will often be necessary when they get to the spot, I feel it my duty to caution them against choosing for their medical guide any man, however high his reputation may be, who has distinguished himself

as the loudest or most eloquent trumpeter in the indiscriminate praise of the waters near which he resides.

The like caution may prove still more serviceable to such of our countrymen as resort to foreign springs for medicinal purposes. A popular advocate for the use of any remedy is seldom to be relied on as a good physician; and we have always strong reason to suspect the skill or the integrity of a man, who speaks in a tone of confidence of the infallible efficacy of the waters which he prescribes. Some of those foreign waters being also frequently imported into this kingdom, and used here medicinally, I shall give a short account of a few of them, which are found to possess virtues superior to any of our own in the cure of certain disorders.

Classification of Mineral Waters.

Mineral waters are usually classed according to their sensible qualities, as perceived by the touch, sight, taste and smell, or according to some well-known ingredient, which may predominate in this or that particular spring. The most obvious division is into cold and hot fountains; but both these, being too comprehensive, are again subdivided into *chalybeate*, *saline*, *sulphureous*, and *calcareous*, from their being impregnated with *iron*, *salts*, *sulphur*, or *lime*. There are many still minuter distinctions, where two or more of those ingredients may be found united in the same spring, or combined with different sorts of *air*, which must have a very powerful effect in the internal use of the waters.

The first class of mineral waters, which I shall notice, are those called *chalybeates*, from a Greek word that signifies *iron*, the taste of which is very perceptible in them when fresh from the spring, though they lose it on being exposed for some time to the atmosphere. The reason is, that the small quantity of iron which they contain, being kept in solution by *fixed air*, when this evaporates, the iron sinks to the bottom, forming the fine ochre that lines the channel or water-course. As iron abounds in almost every part of the earth, it is no wonder that so many springs should be impregnated with it, in a greater or less degree, according to the quantity of fixed air they contain, by which the iron is held in a state of solution. Some of those waters have, in conjunction with the iron and fixed air, a pretty strong mixture of purgative salt, and are very different from the others in their effects as well as their taste. In order to distinguish each by a specific name, the former may be called *simple chalybeates*, and the latter *saline* or *purging chalybeates*. Tunbridge-Wells standing in point of reputation, or of fashionable resort, at the head of the one, and Cheltenham at the head of the other; they may be very properly chosen as examples or illustrations of the various medicinal effects of this numerous class of waters.

Tunbridge-Wells. Medicinal Properties, &c.

It has been already intimated, that the water of Tunbridge-Wells is found, upon being analyzed, to differ from that of common springs only by containing in every gallon a grain of iron sus-

pended by about three table-spoonsful in bulk of fixed air.* Yet its medicinal effects are very considerable. It gives a gentle stimulus to the relaxed nerves, and contributes to restore their proper tone. It affords great relief in many complaints of the stomach, in flatulencies, bilious vomitings, irregular or imperfect digestion, and other consequences of either debility or intemperance. It promotes the circulation of the blood, and the various secretions; but more particularly that of urine: and this latter circumstance is one of the best proofs of its agreeing with the habit of the patient. In short, its natural tendency in the cases to which its stimulant and tonic powers are adapted, is to raise the spirits, and increase the general vigour of all the functions.

The Tunbridge-waters are eminently serviceable in what may be called the sexual disorders of females, arising from a great weakness or derangement of the uterine system; such as an immoderate flow of the *menses*, green sickness, *fluor albus*, and other similar indispositions, which are not only relaxing and painful in themselves, but are often the cause of abortion, or of sterility. If the profuse flow of the *menses* should be accompanied, as it often is, by feverish symptoms, by pain in the back, and local irritation, the stimulus of the waters might then prove injurious. Indeed, they are improper in all inflammatory cases, except the feverish irritation which attends the green sickness, and which is more frequently abated than increased by the use of chalybeates.

In all obstructions of the urinary passages, and other complaints of that region, those waters are found of singular efficacy; for though, as before observed, they in some degree promote every secretion, yet their chief and most regular determination is to the kidneys; and experience has fully proved the good effects of their gently stimulant and diuretic properties.

We may proceed still farther in our recommendation of the Tunbridge-waters, and prescribe them with great probability of success in such chronic disorders as arise from slow beginnings, and are attended with great laxity and weakness of the solids, but without much organic disease. It is necessary to attend to this material exception; because a general weakness may be often brought on by morbid affections of the mesentery, of the lungs, or of some other important organ, to the cure or relief of which they would be very inadequate. Even in complaints where they have commonly proved efficacious, cases must often occur that require the exercise of the nicest judgment and discrimination.

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* A recent analysis of the Tunbridge-Wells says: "A single dose of half a pint will contain, according to the analysis which has been given, and the statement made agreeable to Dr. Murray's views, of solid ingredients, about 14-100ths of a grain of oxide of iron; 9-100ths of muriate of lime; 8-100ths of a grain of muriate of magnesia; 9-100ths of a grain of the sulphate of soda; 2-100ths of a grain of carbonate of lime, and a minute portion of manganese; and of gaseous ingredients, half a cubic inch (or a ½ oz. in bulk) of carbonic acid; 11-100ths of a cubic inch of azote, and about the same quantity of atmospherical air." These minutiæ, be they ever so correct, are of no use in practice; and we merely give this as a specimen of that species of chymical ear-wigging which the author of the "Domestic Medicine" so justly and so humourously disclaims, while he goes at once into the more solid utility to be derived from frequenting mineral springs for the cure of disease and the improvement of the general health. Dr. Scudamore's book has neither index nor table of contents, consequently it was never intended to be referred to. (For a general survey, analysis, properties, &c. of the mineral waters, see "NATURAL and MEDICAL DIETETICON, &c.") ED.

But it is not enough to consider well the propriety of having recourse to those waters in any particular instance; some caution is also necessary in using them. Persons of a full habit should not begin to drink them, without losing a little blood, or without some other evacuation. When the stomach is foul, a purgative is commonly preferable to emetics. What the immediate effect of the waters may be, can only be known by trial. They often purge very briskly at first, but this effect soon ceases; and as their continued use has some tendency to occasion costiveness, gently-opening medicines from time to time are necessary. The water itself may be easily converted into a purging chalybeate, by the addition of a little magnesia or Glauber's salts, when necessary. In the removal of other obstructions, those more especially to which females are subject, the occasional use of the warm-bath will be found an excellent auxiliary.

Directions and Cautions to be observed in the Use of these Waters.

In entering upon a course of the Tunbridge-waters, it is always best to begin with a small dose, not exceeding a quarter of a pint, about half an hour before breakfast, to be repeated, at regular intervals, once or twice in the forenoon, according to the pleasantness of the sensations it excites. The quantity may be soon augmented to half a pint or even more at each dose, if agreeable, or necessary, as the waters lose much of their medicinal effect by continued use, the stimulus wearing off in about six or eight weeks, and making no peculiar impression on the stomach or habit. The usual hours for the three doses are eight o'clock, ten o'clock, and twelve. A light breakfast at nine will not impede the proper action of the waters; and as one of their effects is to improve the appetite, its indulgence should be under the control of moderation. But I have elsewhere enlarged so fully on the advantages of temperance, as well as of early hours and exercise, that I need not stop here to point out their importance in promoting the salutary operation of any course of medicines either natural or artificial.

As some persons may be too soon prejudiced against the use of chalybeates by any unpleasant or unexpected sensations at first, it is proper to inform them, that giddiness and sometimes a heaviness of the head, nausea, vomiting, a slight pain about the heart, and a sense of fulness over the whole body, though by no means uncommon symptoms on beginning a course of these waters, will disappear after a little use. It is only when they stubbornly continue, that they should be regarded as a proof that the waters are not suited to the nature of the complaint or to the patient's constitution. The nausea or sickness being often occasioned by the coldness of the fresh-drawn water, acting on an empty or a very weak and irritable stomach, it is advisable, in the first instance, not to drink the waters fasting, till the stomach becomes gradually reconciled to them; and, in case of extreme irritability, it is a common and judicious practice at Tunbridge to immerse in hot water a bottle filled with the chalybeate, and well corked, that the chillness may be diminished, with as little evaporation of the fixed air as possible. Where this abounds, as in the waters of the Ger-

man Spa, or still more in those of Pyrmont, it need not be preserved with so much caution; but a sufficient quantity of boiling water may be added to that which is taken from the spring, to bring the whole to a moderate temperature.

Remarks.—There are many springs of *simple chalybeate* water in different parts of Great Britain, and even in the neighbourhood of London, which probably are little inferior in medicinal virtue or intrinsic strength to Tunbridge-Wells, though these have acquired a higher reputation. Pure air, temperate living, regular and early hours, active diversions, agreeable company, and a total exemption from all concern, except a rational desire to promote health, are the only circumstances that cause any real difference in the use of waters so similar in quality. This difference, however, is considerable; and the want of some of those co-operating circumstances will always prevent the springs of Islington or Hampstead from being set in competition with those of Tunbridge, for the certainty of their effects. The remarks, which I have made on the proper method of drinking the latter, as well as on the disorders and particular habits of body to which they are adapted, are equally applicable to all waters of the same description in our island. But there are a few chalybeates on the continent, particularly those of the German Spa and of Pyrmont, which, being more active and powerful in their operation, require to be used with greater caution and delicacy.

Pyrmont and German Spa, &c., compared with *the Tunbridge Waters, &c.*

On drinking a glass of the Spa water, the taste immediately perceives a strong infusion of iron blended with an agreeable acidity. The latter is owing to the abundance of fixed air, which amounts to near half the bulk of the water, and holds in solution more than four times as much iron as we find in the like quantity of Tunbridge water. The effects are not less perceptible than the taste. A full draught of the Spa water, especially in hot weather, or upon an empty stomach, will produce a swimming in the head, and a sort of intoxication, which sometimes continues for half an hour, and is very like that which arises from spirituous liquors, though it does not leave the same debility after going off. A patient, therefore, should not drink more than a gill at first about an hour after breakfast, and another gill after an interval of two hours more. In three or four days the quantity may be increased, and the dose more frequently repeated; but in these particulars every body's experience will be the best guide. I before suggested the propriety of mixing as much boiling water with the chalybeate as will bring it to a degree of tepid warmth, and thereby prevent any unpleasant sensations, which its natural coldness might excite in a very weak or a very irritable stomach.

If some evacuation was recommended to persons of a plethoric habit, before drinking the Tunbridge water, how much more necessary must it be to prepare in the same manner for the use of a far stronger stimulant? This very active property of the Spa waters must also render them still more improper than those of Tunbridge in inflammatory complaints, attended with determination to the

head, flushing of the face, or any other strong indications of feverish heat. But if the febrile symptoms are very slight, the Spa waters, used cautiously and moderately, may prove beneficial. They quench thirst more than common water; and they have been frequently known to afford relief in ulcerated sore throats.

What has been said of the efficacy of our own simple chalybeates in cases of nervous relaxation, or of general weakness, many affections of the stomach and bowels, in disorders of the kidneys and bladder, or obstructions in the urinary passages, and in various complaints peculiarly incident to females, may be asserted with still greater confidence of the waters of the German Spa, because of their superior strength. Yet they do not equal the activity of the Pyrmont waters, which contain as much iron and twice as much fixed air as those of the Spa, besides a larger proportion of earthy salts. The directions already given, will apply to them both, under similar circumstances. Where the stimulus is evidently stronger, more caution is at first necessary; but every patient must learn from experience what quantity of either of those chalybeates the stomach or general habit will conveniently bear; and this quantity, when ascertained, whatever it may be, whether one, two, or three pints in the course of a day, must be continued without farther increase.

It may be thought worthy of remark, that the waters of Pyrmont and Spa, though in their own nature somewhat intoxicating, afford the most refreshing and wholesome draught, to relieve in the morning a weakness of the stomach occasioned by the too free use of the bowl or the bottle the night before.

The only peculiarity in the virtues or medicinal effects of the Pyrmont waters is, that, when diluted with new milk, they are found very serviceable in gouty cases, and may therefore be safely prescribed in this form, during the intervals of the fits and the absence of inflammatory symptoms.

It is fortunate for a patient who cannot go to drink either of those waters at the fountain head, that they may be conveyed to any distance, and will retain their medicinal properties, with little or no diminution, for two years, if they are inclosed in bottles well corked and covered with cement. They contain so much fixed air that it is usual, after filling the bottles, to leave them uncorked for a while, in order to let the excess of the fixed air escape, as its expansion might burst the bottles, if they were to be instantly corked and removed to a warm place.

The other species of this class of waters, which come next to be noticed, are the *saline* or *purging chalybeates*, so called partly from their contents, and partly from their mode of operation. Besides iron and fixed air, which they have in common with the *simple chalybeates*, they hold in solution such a quantity of purgative salt as gives them a regular and strongly marked determination to the bowels. Any chalybeate, whether of the milder sort, as the Tunbridge-water, or of the rougher, as those of the German Spa and of Pyrmont, will often purge briskly at first; but this is not their certain or constant effect. It seems to depend on the previous habit, or the actual state of the patient's stomach and bowels. It also goes off very soon, and is followed by a tendency to costive-

ness. But the *purging chalybeates* commonly operate in the same regular, constant, and uniform manner, as long as they are continued. The chief springs of this description in England are those of Cheltenham and Scarborough, upon the medical properties of which I shall now make a few remarks.

Cheltenham Waters.

The Cheltenham-waters require no preparation; but the quantity sufficient to produce the desired effect on the bowels, can only be known by experience. Half a pint is as much as any patient can well drink at a time, and this may be repeated three or four times, at proper intervals, in the course of the day, according to its operation, or to the intention with which it is taken. Four doses of half a pint each contain about a quarter of an ounce of purging salts, with somewhat more than a grain of iron held in solution by four ounces in bulk of fixed air. As purgatives act very differently in different habits, the quantity here mentioned will operate briskly upon some patients, but so weakly upon others, as to render the occasional addition to the crystallized salts necessary, when a powerful and speedy effect is desired. On the other hand, the quantity of the water, or the number of doses, may be lessened, when it is used merely as an alterative. But even persons of very delicate habits may divest themselves of their usual prejudices against cathartics, as those saline chalybeates do not occasion griping or languor. The only unpleasant sensation, which they sometimes excite on first drinking them, is a sort of giddiness, or slight head-ach, which soon goes off; but their agreeable and salutary effects are not so transient. They improve the appetite, strengthen the stomach, and promote general alertness, while they correct and carry off the impurities of the whole system. Hence it is that they may be persevered in for a considerable length of time, and the body kept *moderately* open by their uninterrupted use, without the least debility or inconvenience. These remarks, however, admit of some exceptions, particularly when the constitution is either naturally very weak, or much enfeebled by disease, without any marks of obstruction, or of acrimony in the fluids. A constant operation on the bowels would in such cases prove very injurious.

Cheltenham-water has often been found of the greatest service in glandular and visceral obstructions, in a variety of bilious and scrofulous complaints, in the first symptoms of a dropsical disposition, and in many of the most distressing scorbutic eruptions and ulcerations on the skin. But the obstinacy of some of these can only be overcome by perseverance. In our endeavours to obtain a cure of any disease of the chronic kind, we should not forget that complaints, slow in their progress, go off also very slowly; and that, according to the judicious remark of Celsus, time is necessary to remove the deep-rooted evils which time has occasioned.

The proper season for drinking the waters of Cheltenham is the summer; and as the warm-bath may also be advisable in some of the cases to which the waters are suited, the town is well supplied with accommodations for that purpose.

Scarborough Waters.

The saline chalybeate at Scarborough does not contain above a third part of the purging salts which are found in a like quantity of the Cheltenham-water. Of course, it cannot be supposed to operate with the same force and activity, unless larger doses are taken than most stomachs will bear, or unless the powers of the water are increased by the addition of some opening salts of the like kind as those which it already holds in solution. In its natural state, it is chiefly employed as an alterative, but may, by the artificial means just mentioned, be adapted to all the complaints in which the Cheltenham-water is found efficacious. Neither of them will keep well even in close bottles, or bear to be carried to any great distance, as the iron is deposited in a few days, though the saline impregnation continues. By evaporating the water the purgative salts are procured, for the purpose of being again dissolved in some more water from the same spring, to increase its operation on the bowels.

The inferiority, in point of strength, of the Scarborough-water, is more than counterbalanced by other advantages which Cheltenham does not possess. In the first place, near the *saline chalybeate* spring there is another spring of *simple chalybeate* water, like that of Tunbridge-Wells, which is very convenient for patients in cases where a determination to the kidneys may be desirable. But the situation of Scarborough on the coast is an object of still greater importance, as it affords an opportunity of bathing in the sea, so conducive to the cure of many of the disorders for which those springs are resorted to. The elevation of the ground, and the uncommon purity of the air, deserve also peculiar notice in a medical survey of the local advantages of Scarborough.

It is remarkable, that all the saline chalybeates in our island are cold, while many of those on the continent are hot, and are used as baths, as well as internally, in a number of diseases very difficult of cure. I shall therefore reserve my account of one or two of the most celebrated of them, till I come to describe our own hot baths, though the foreign ones, on account of their principal ingredients, may be said more strictly to belong to the class of waters which I have just been considering.

The details before entered into respecting the external and internal use of the sea-water, and its admirable effects not only as a grand preservative of health, but as an efficacious restorative of that blessing in various complaints, preclude the necessity of saying much of the second class of mineral waters, denominated *the simply saline*, and differing from common water only in being impregnated with some purging salts. We have several of these springs near the metropolis; but they are little used, as it is so easy to procure the sea-water, which is much superior to all others of this description, in the strength of its saline ingredients, and the certainty of its effects. Epsom-water, though one of the first of the salt springs that was brought into use, is now seldom or never prescribed. Bagnigge-Wells, those at the Dog and Duck in St. George's Fields,* as well as at Kilburn and Acton, have also had

* The waters of the "Dog and Duck" have long ago been disturbed by the less

their day of medicinal reputation; but even recommendatory essays and pamphlets can no longer prop up their fame. The portion of salts which they contain is not sufficient to act with certainty on the bowels, unless they are taken in such large quantities as delicate stomachs cannot bear, and as very few people can swallow without difficulty and disgust. Two or three pints must be taken one after the other, in a short space of time, to ensure the full purgative effect. On this account, when they were in vogue, it was a common practice to administer more convenient doses, smaller in quantity, but strengthened by an additional solution of some of the same salt as that which they already contained. But this differs so little from an artificial dose of physic, as almost to destroy the idea of a remedy prepared by nature. Besides, the facility which our insular situation affords, of procuring salt-water of the greatest efficacy from its grand reservoir, must lessen the value of those substitutes. Local convenience has certainly contributed its share to the high repute of a spring of the like kind at Sedlitz, a village in Bohemia, which, being much more strongly impregnated with *bitter purging salt* than the Epsom-water, can be more relied upon for its medicinal effects, and is therefore very justly esteemed in a part of the continent far removed from the sea.

Seltzer Water.

But there is another saline spring in Germany, a more particular account of which must be interesting to the English reader, not only from the peculiarity of its nature and virtues, but because large quantities of it are imported into this country for medicinal purposes. Few mineral waters have acquired a greater degree of celebrity than those which are brought from Seltzer, and which may be said to form a peculiar species, being *saline* and slightly *alkaline*, with a strong impregnation of *fixed air*. This quickly evaporates on being exposed to the atmosphere, so that the water designed for exportation must be instantly bottled, and kept closely corked, with the mouths of the bottles well covered with cement, or it will soon become not only vapid but putrescent. If well preserved, when poured into a glass, it is perfectly clear and sparkling, and has a gentle saline, and somewhat pungent or acidulous taste: but if the fixed air be suffered to escape, through the least neglect, the water appears turbid, is offensive to the smell, and entirely loses its pungency. The stone-bottles, in which it is brought to England, contain about three pints each, a sufficient quantity for a day, to be taken in half-pint glasses at convenient intervals. Its natural flavour is rather agreeable, and its effects on the spirits are in general exhilarating. Persons of very irritable stomachs may dilute it with milk; in which mixed state it is particularly recommended in cases of hectic fever with expectoration. It corrects and diminishes the discharge from the lungs, checks the violence of the sweats, and contributes very much to the patient's repose.

The Seltzer-water is also used with considerable benefit in nervous affections of the stomach and bowels, in cases of indigestion,

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medicinal but more inebriating and destructive substitution of those of Hodges; and Barclay, Perkins, &c.; a public-house having been erected on the spot. Ed.

foulness, bilious vomiting, acidity, heart-burn, spasmodic pains in the alimentary canal, and various diseases of the urinary organs. Its rapid determination to the kidneys, the action of its stimulus, and perhaps some considerable power as a solvent, may concur to produce the very agreeable effects that are experienced from it, in the latter complaints especially. In any of the former, it is advisable to take some gently-opening medicine every two or three days; and the easiest method of doing this is to add to the dose of Seltzer-water such a quantity of vitriolated magnesia as will keep the bowels in a regular state.

Though this water cannot be prescribed with so much confidence, it may be very safely tried in miliary pustules, and the like sudden eruptions on the skin, attended with general irritation. I consider it merely as a good diet-drink in these disorders; for the relief of which, greater reliance is justly placed on regimen than on medicine.

Harrowgate Waters.

In a few of the waters already described, we can discover a slight impregnation of sulphur; but where this principle abounds or predominates, the waters are distinguished by the name of *sulphureous*, from their chief ingredient. The springs of Harrowgate take the lead in this class, and are certainly deserving of the reputation they have acquired, though they are also very frequently used with great indiscretion: and as the same error is very common in drinking the other strong purgative mineral waters, I shall take this opportunity of enlarging upon it.

A very hurtful prejudice prevails in this country, that all diseases must be cured by medicines taken into the stomach, and that the more violently these medicines operate, they are the more likely to have the desired effect. This opinion has proved fatal to thousands, and will, in all probability, destroy many more, before it can be wholly eradicated. Purging is often useful in acute diseases, and in chronical cases may pave the way for the operation of other medicines: but it will seldom perform a cure; and, by exhausting the strength of the patient, will often leave him in a worse condition than it found him. That this is frequently the case with regard to the more active mineral waters, every person conversant in these matters will readily allow.

Strong stimulants applied to the stomach and bowels for a length of time must tend to weaken and destroy their energy; and what stimulants are more active than salt and sulphur, especially when these substances are intimately combined, and carried through the system by the penetrating medium of water? Those bowels must be strong indeed which can withstand the daily operation of such active principles for months together, and not be injured. This, however, is the plan too generally pursued by those who drink the purging mineral waters, and whose circumstances permit them to continue long enough at Harrowgate, and the like places of fashionable resort.

Many people imagine that every thing depends on the quantity of water taken, and that the more they drink, they will the sooner

get well. This is an egregious error; for, while the unhappy patient thinks he is by this means eradicating his disorder, he is often, in fact, undermining the powers of life, and ruining his constitution. Indeed, nothing can do this so effectually as weakening the powers of digestion by the improper application of strong stimulants. The very essence of health depends on the digestive organs performing their due functions, and the most tedious maladies are all connected with indigestion.

Drinking the water in too great quantity not only injures the bowels, and occasions indigestion, but generally defeats the intention for which it is taken. The diseases, for the cure of which mineral waters are chiefly celebrated, are mostly of the chronic kind; and it is well known that such diseases can only be cured by the slow operation of alteratives, or such medicines as act by inducing a gradual change in the habit. This requires length of time, and can never be effected by medicines which run off by stool, and operate chiefly on the first passages.

Those who wish for the cure of any obstinate malady from the Harrowgate-waters, or others of the sulphureous or saline class, ought to take them in such a manner as hardly to produce any effect whatever on the bowels. With this view, a half-pint glass may be drank at bed-time,* and the same quantity an hour before breakfast, dinner, and supper. The dose, however, must vary according to circumstances. Even the quantity mentioned above will purge some persons while others will drink twice as much without being in the least moved by it. Its operation on the bowels is the only standard for using the water as an alterative. No more ought to be taken than barely to move the body; nor is it always necessary to carry it even this length, provided the water goes off by the other emunctories, and does not occasion a chilness or flatulency in the stomach or bowels. When the water is intended to purge, in cases where the nature of the patient's complaint requires a strong determination to the bowels, it may be necessary to drink a pint or two before breakfast.

I would not only caution patients who drink those waters overnight, to avoid hearty suppers, but also against eating heavy meals at any time. The stimulus of water, impregnated with sulphur and salts, seems to create a false appetite. I have seen a delicate person, after drinking the Harrowgate-waters of a morning, eat a breakfast sufficient to have served two ploughmen, devour a plentiful dinner of flesh and fish, and, to crown all, eat such a supper as might have satisfied a hungry porter. All this, indeed, the stomach seemed to crave; but this craving had better remain not quite satisfied, than that the stomach should be loaded with what exceeds its powers. To starve patients was never my plan; but I am clearly of opinion, that, in the use of all the strongly purging mineral waters, a light and rather diluting diet is the most proper;

* When I speak of drinking a glass of the water over-night, I must beg leave to caution those who follow this plan against eating hearty suppers. The late Dr. DAULTRY of York, who was the first that brought the Harrowgate-waters into repute, used to advise his patients to drink a glass before they went to bed; the consequence of which was, that having eat a meat-supper, and the water operating in the night, they were often tormented with gripes, and obliged to call for medical assistance.

and that no person, during such a course, ought to eat to the full extent of what his appetite craves.

Exercise is not less conducive to the salutary end in view than temperance. It promotes the operation of the waters, and carries them through the system. It may be taken in any manner that is most agreeable to the patient; but he ought never to carry it to excess. I scarcely need repeat a remark often made in other parts of this work, that the best kinds of exercise are those connected with amusement. Every thing that tends to exhilarate the spirits, not only increases the efficacy of the waters, but acts as a medicine. All those who repair to the fountains of health ought therefore to leave every care behind, to mix with the company, and to make themselves as cheerful and happy as possible. From this conduct, assisted by the free and wholesome air of those fashionable places of resort, and also the regular and early hours which are usually kept, the patient often receives more benefit than from using the waters.

During my residence at Harrowgate, I met with many instances of the most mischievous effects produced by drinking the waters in cases where they were absolutely improper, and adverse to the nature of the disease. When people hear of a wonderful cure having been performed by some mineral water, they immediately conclude that it will cure every thing, and accordingly swallow it down, when they might as well take poison. Before patients begin to drink the more active kinds of mineral waters, they ought to be well informed of the propriety of the course, and should never persist in using them, when they are found to aggravate the disorder.

On the other hand, I often witnessed the happy issue of experiment made with judgment and caution at Harrowgate, when the greatest benefit was derived from the proper use of the waters in various eruptions on the skin, of the most distressing nature; in rheumatism complicated with scorbutic complaints; in obstructions of the glandular and lymphatic system; and in diseases of the first passages, accompanied with, or proceeding from, inactivity of the stomach and bowels, acidity, indigestion, vitiated bile, worms, putrid sores, the piles, and jaundice. They answer two very important purposes; first, when taken in small quantities, acting as an alterative, and inducing, by their mild operation, a gradual change in the habit; and, secondly, when employed in larger doses where purging is indicated, fulfilling that intention in the most desirable manner, without irritating the nerves, or weakening the patient so much as other purgatives. After a little use, almost every body can drink them without any great disgust, though they are at first no less nauseous to the taste, than offensive to the smell.

I shall only add, that the external use of the Harrowgate-waters being justly deemed a very powerful auxiliary in many of the disorders for which they are resorted to, particularly those of the cutaneous class, there are proper baths for this purpose, to the supply of which three springs out of four are devoted, that which is reserved for drinking being more strongly impregnated with salt and sulphur than the rest.

Moffat Waters.

The sulphureous and saline waters of Moffat in North Britain are almost as much resorted to as those of Harrowgate. The impregnation of the former, indeed, is not so strong as that of the latter, and their effects are of course somewhat different. Two or three quarts of the Moffat water may be drank in a morning, without any sensible effect but that of increasing the flow of urine. It now and then purges; but this is so far from being its constant or regular mode of operation, that opening medicines are almost always necessary during a course of it. Its evident determination to the kidneys renders it of essential service to persons afflicted with the stone and gravel, particularly the latter. It has likewise afforded great relief in many bilious complaints, and in the early symptoms of a scrofulous habit. But its chief point of celebrity, and that in which it may be said to rival the springs of Harrowgate, is the cure of cutaneous eruptions of every kind. In these cases, the external application of the water, warmed to a considerable temperature, is very judiciously made a material part of the plan of treatment. One disadvantage, however, attends this process both at Moffat and Harrowgate. The waters, while heating, unavoidably lose in vapour some of their sulphureous impregnation, on which part of their efficacy, even when externally applied, must depend. So far, therefore, a preference is justly due to the natural hot sulphureous springs of Aix-la-Chapelle and Bareges, of which I shall take some farther notice, after I describe the thermal springs in our own island, which constitute the next and last class in my arrangement of mineral waters.

In the introductory part of this section, the waters which now remain to be considered are specifically distinguished by the title of *calcareous*, because they contain more lime or calcareous salts than they do of any other solid substance. I adopted this title, however, in compliance with custom, and merely as a nominal distinction, rather than from considering it as an important characteristic, or by any means expressive of the grand cause of the efficacy of such waters. It is not to chemical analysis, but to experience that we are indebted for a knowledge of their virtues; and, instead of giving them a name taken from a part of their contents, which conveys no useful information, we had better simply call them hot springs, as every body will then have a clear idea of the most perceptible difference between them and all the other mineral waters in our island.

Bath Hot Springs.

In this part of our description, the hot springs of Bath have the most indisputable claims to precedency. The fame of their medical virtues is more widely diffused and more firmly established than that of any other springs in the known world. It is no wonder, therefore, that the pen of industry, of genius, or of ambition, should have been often exercised upon so popular a topic. Amidst such a multitude of books, Dr. Falconer's "Practical Dissertation on the Medicinal Effects of the Bath Waters," is acknowledged to be

the best account which has yet appeared of what he justly calls a "powerful, but (in many instances) nice remedy." His situation as physician to the Bath Hospital must have afforded him the best opportunities of observing the effects of those waters; and he has given the most satisfactory proofs of his being well qualified to profit by those opportunities. One of his remarks is really of more consequence than a whole volume of chymical investigations, which have thrown just as little light upon the efficacy of the waters as the fables concerning Bladud, or the frequently-discovered fragments of Roman antiquities. Chemistry, indeed, makes us acquainted with the component parts of those waters, and tells us they contain a good deal of calcareous salts, but little, if any, neutral alkaline salts; and that they are impregnated with about a sixtieth part in bulk of fixed air, which holds in solution so very small a quantity of iron as to be scarcely appreciable, though it gives a slight chalybeate taste to the water when hot from the spring. But what inference could we deduce from these and the like amusing details, in the treatment of any particular disease? It is, then, to the enlightened practitioner, as I said before, that we must look for useful information; and, in this view of the subject, we cannot wish for more respectable authority than that of Dr. Falconer.

According to this writer, the Bath-water, when drank fresh from the spring, has in most persons the effect of raising and rather accelerating the pulse, increasing the heat, and exciting the secretions. The action on the nervous system is felt at the same time, so that the stimulating properties of the water must be very diffusive; and, what is farther remarkable, though these symptoms come on suddenly, yet they often continue much longer than we can suppose them to be excited by the actual presence of the water in the body.

Medicinal Properties.—The Bath-waters not only promote urine and perspiration, but also increase the salivary discharge; and quench thirst better than other fluid, in cases where there is no tendency to fever. If any disposition of this kind should appear, a hot stimulant would be evidently improper.

It has been generally imagined, that those waters were somewhat astringent, on account of the costiveness which frequently accompanies the use of them. But this effect is more reasonably ascribed to their heating qualities, and to their power of exciting the other secretions. As a proof of this, when perspiration is checked in cold weather, they sometimes prove slightly purgative.

The relief which the Bath-waters afford in the colic, in convulsive retchings which often attend the gout in the stomach, and in many other similar affections, is a sufficient evidence of their antispasmodic powers.

This account of the primary and immediate effects of the water used internally will enable any patient to judge, from his own feelings, whether it agrees with his constitution or not. If it excites, on being first taken, a pleasing glow in the stomach, followed by an increase of spirits, and of appetite, particularly for breakfast, and, above all, a rapid determination to the kidneys, there is the greatest probability of its proving serviceable. But if it occasions head-ach, thirst, and dryness of the tongue;—if it sits heavy on the

stomach, or produces sickness, and does not pass off by urine or perspiration;—it may be fairly concluded, that its continuance would do injury, unless these symptoms can be removed.

If we come next to consider the external application of those waters, we shall find, in the first place, that they unite all the medicinal advantages of warm-baths, from about a hundred and six degrees of heat to any inferior degree that may be desired. The extent also of the baths, which affords room to move about in them freely, and the permanence and uniformity of their warmth, are not unimportant recommendations. But Dr. Falconer is of opinion, that the Bath-waters possess some farther powers or specific qualities superior to those of common water of the same temperature. He thinks that their action on the nervous system is more stimulating than a common warm-bath;—that they raise the pulse and heat of the body to a higher degree, yet are much less apt to produce a violent perspiration;—that they remarkably increase the urinary discharge;—and that, so far from causing any relaxation or weakness, the bathers are observed to be in general more alert and vigorous, and to have a better appetite on the days of bathing than in the interval. As far as my own opportunities of observation extended during a few short visits at Bath, they are in perfect concurrence with the Doctor's opinion.

The diseases, in which this eminent practitioner very accurately describes the good effects of the Bath-waters, are the green sickness, particularly before any considerable affection of the stomach takes place, or any feverish symptoms appear; visceral obstructions, when the consequences of intermittent fever, or of long residence in hot climates, if the disorder in these cases has not advanced too far; the palsy, from a great variety of causes; the gout, in that stage of the complaint, when the inflammatory symptoms, if any have preceded, have in a good measure abated, and a degree of weakness and want of tone in the system begins to take place; the chronic rheumatism, and the acute also, provided the feverish disposition be previously allayed by proper evacuations; white swellings on the knee; hip cases; weakness of the organs of digestion; the colic, accompanied with hysteric symptoms, or produced by the poison of lead; the jaundice, when arising from simple obstruction of the biliary ducts; hypochondriac and hysterical complaints; St. Vitus's Dance; spasmodic affections of the womb and painful menstruation; and, lastly, in many cutaneous, but more especially leprous eruptions.

I have confined myself here to a bare outline, which may be sufficient for the general direction of valetudinarians, who must avail themselves of more particular advice at the fountain-head. Almost every case will require a peculiar mode of treatment; and great caution will be found necessary to prevent fatal mistakes. I cannot too often repeat, that the more powerful any remedy is, the more liable it is to abuse; and though the efficacy of the Bath-waters has been fully established in a variety of the most stubborn and afflicting disorders, yet their misapplication has also been often attended with very serious consequences.

Even when the use of the Bath-waters may be deemed safe or proper, consideration must be had, as Dr. Falconer justly ob-

serves, to the quantity taken in, when they are drank; and to the time of stay in the bath, heat of the water, &c. when they are externally used.

The safest method is to begin with drinking a glass, containing about a quarter of a pint, before breakfast; and to judge from its effects how often it may be repeated, or the quantity enlarged. If it feel easy, warm, and cordial, to the stomach and spirits, and excites no pain or sense of fulness in the head or eyes, a second glass of the same size may be taken the same day at noon, and this quantity gradually increased to a pint in the day, taken at two or three times, as convenience may suit. This is deemed a proper medium for the generality of people, though in some cases, where the habit is not very irritable, the daily allowance may be augmented to a pint and a half, with safety and benefit. The Cross Bath-water, the temperature of which, when fresh from the spring, is 112°, is usually recommended at the commencement of a course, especially when there is any affection of the head, or when any tendency to plethora appears in the system. After some time, the more powerful water of the King's or the Hot Bath, which is four degrees higher in temperature, may be used; and this change will prevent, in some measure, the disgust which is apt to come on after a long trial of the Bath-waters.

No less regard should be paid to the proper use of the Bath. A short stay of five or six minutes is most advisable at first; and if this trial produces no symptoms that are disagreeable, but, on the contrary, seems to improve the health, spirits, and strength, a longer stay may be gradually indulged, till it comes to half an hour, but never to cause lassitude, faintness, or disgust. The choice of the baths is often a matter of importance, as there is a still greater variation in the temperature of the waters when in the baths than at the pumps, the waters in the King's, or the Hot Bath, being from eight to twelve degrees warmer than those of the Cross Bath. There are also private baths of any temperature to suit the peculiarities of every patient's habit or complaint. The best time in general for bathing is the morning; and it may be repeated twice, or at most thrice a-week. As the public baths are emptied soon after nine o'clock, a much earlier hour is usually chosen for bathing; but the private baths may be prepared at any hour of the day. Where a greater stimulus than mere immersion is thought necessary, or where a partial application of the water is deemed preferable to a general one, the part may be pumped upon, so as to increase the forcible action of the water on that part, and yet prove less heating to the system at large.

Buxton Waters, &c.

There are no springs in our island besides those at Bath, which can be strictly called hot, though a few others have got the name, and are referred to this class of thermal waters, from being, invariably in every season, and independently of the state of the atmosphere, warmer than the general average of the heat of common springs. The temperature of Buxton-waters is only 82°, yet approaches nearest to that of the hot springs at Bath, which, in their coolest state, are never lower than 90°. In other sensible proper-

ties the Buxton-water differs very little from common pump-water.

The medicinal effects of the Buxton-waters, however, are far from being inconsiderable. Taken internally in small doses at different intervals, amounting to near a pint before breakfast, and the like quantity before dinner, they afford very great relief in heart-burn, flatulency, sickness at the stomach, and other distressing symptoms of defective digestion and derangement of the alimentary organs, the sure attendants of indolence and luxury. In such cases, the body must be kept regularly open by means of medicine during the use of the waters, if these do not, as they sometimes will, produce a laxative effect which is always salutary.* They are no less serviceable in alleviating painful affections of the kidneys and bladder; and here also the external use of the waters is often found to promote their internal operation.

But the employment of the Buxton-waters as a bath is not confined to the relief of gravelly complaints. They contribute far more effectually to restore the healthy action of particular limbs, that may have lost their moving powers in consequence of long or violent inflammation, occasioned either by external injury, or preceding acute rheumatism. But if the rigidity, weakness, or impaired functions of the parts affected be the consequence of a paralytic stroke or of gouty inflammation, more benefit will be experienced from the warmer temperature of the Bath waters.

In general, the Buxton bath is well suited to such a languid, enfeebled, or very irritable state of the habit, as cannot bear absolutely cold water, but may be excited to easy and salutary re-action by a milder stimulus. The slight shock, which people feel at the instant of immersion in the Buxton waters, is almost immediately followed by a pleasant glow all over the body; and this is precisely the effect aimed at. But I have expressed myself so fully on the nature of the particular infirmities to which the lukewarm bath is adapted, as to render any farther observations on this head unnecessary.

Matlock, &c.

The tepid springs at Matlock approach still nearer to cold water than those at Buxton, being sixteen degrees lower in point of temperature. The shock, which they give on immersion, is consequently stronger, and requires greater powers of re-action in the habit; but they form a good intermediate bath between Buxton and the sea. They are, therefore, very properly employed in preparing invalids for the latter, when this is necessary to complete a cure, as is often the case in the chronic rheumatism. They are used internally as a pure diluting drink, but are not known to possess any other remarkable medicinal properties.

Bristol Hot Well, &c.

The Hot-well, as it is improperly called, near Bristol, is not,

* A dose or two of some aperient medicine is advised to be taken preliminary to the use of these waters; and gouty patients, to whom also they are recommended, ought not to begin a course unless they are well prepared, and rendered free from every discoverable sign of an acute state of the disposition to an attack of their complaint.

indeed, so cold as the springs at Matlock, but does not rise to the temperature of those at Buxton, being only 74°, or twenty-two degrees below the ordinary warmth of the blood in a state of health. The Hot-well water is not made use of to bathe in; but, taken internally, it has acquired very high reputation for curing the incipient symptoms of consumption, and affording considerable relief in the more advanced stages of this disease. As the effects it produces are very gradual, its agreeableness to the palate is a fortunate circumstance for a class of patients, who can only hope, by long and steady perseverance, to check the progress of one of the most insidious destroyers of the human species. There is no doubt but they are also indebted for a part of the relief they experience to the mild, sheltered, yet sufficiently ventilated situation of the Hot-wells, and to the judicious plan of diet, exercise, and amusement pursued there.

The other complaints, in which the purity and temperature of the Hot-well water render it very grateful and of no small efficacy, are relaxations of the stomach and bowels, brought on by long residence in hot climates; bilious diarrhœa; slight dysentery; and a disorder still more difficult of cure than any of these, I mean the diabetes. I do not know any natural remedy better adapted to relieve its various symptoms; such as the constant thirst, the impeded perspiration, the dryness and frequent desquamation of the skin, the feverish quickness of the pulse, and the preternatural discharge of urine. A regular course of the Hot-well water has been found to moderate this almost unquenchable thirst; to keep the skin moist and perspirable; to allay the fever; and to render the urinary organs fitter to receive benefit from the medicines usually prescribed to remove their debility and that of the system in general. It may be farther necessary to observe, that, as this water contains but a very small quantity of purgative salts, which are also counteracted by a larger solution of calcareous salts, it must have a stronger determination to the kidneys than to the bowels, so that the use of a gentle aperient medicine becomes in several cases advisable.

Particular habits and complaints require variations in the quantity to be taken of this, as well as of any other mineral water. The full dose is half a pint, to be drank early in the morning, and repeated before breakfast, at the interval of at least half an hour spent in gentle exercise. Two more doses of the like quantity, and with the like interposition of active amusement, are to be taken between breakfast and dinner, at the longest distance from each of those meals. As this water is also used at table and for domestic purposes, every invalid unavoidably takes more than the above quantity every day; but in consequence of its altered temperature, and of the loss of the fixed air it contained, it cannot be in so high a state of medicinal perfection as when drank fresh from the spring. The same remark must of course apply to the immense quantities that are bottled for exportation, though the almost proverbial purity and softness of the water, as well as its excellent property of keeping untainted for a great length of time in hot climates, must render it a very valuable water for long voyages.

Continental Hot Springs, &c.

I shall subjoin to these observations on the medicinal virtues of our own thermal waters, a short account of the most celebrated hot springs on the continent.

There is none of the foreign watering places more resorted to than the German Spa, of which I already took notice among the cold chalybeates, and Aix-la-Chapelle, about twenty-four miles distant from the former, and equally famous for waters of a very different quality and temperature. Their celebrity is traced back even to the days of Charlemagne, who resided for a long time at Aix, and took so much delight in the use of the waters, as frequently to hold his levee in the bath, with all his attendants.

The exact degree of the heat of these waters is given differently by different observers; but, taking the average of their accounts, it may be reckoned in the well of the hottest bath at 140°, and at the fountain where it is drank, about 120°. It requires to stand several hours in the large baths, before it is sufficiently cooled for tepid bathing, without the addition of cold water. It contains an uncommon quantity of sulphur, and emits a smell like that of Harrowgate water, but far more penetrating. From its heat, and its stronger impregnation of the sulphureous principle, it is also more powerful in all the diseases of the skin, for which Harrowgate is resorted to. The baths at Aix-la-Chapelle are looked upon as a cure for almost every cutaneous eruption; but the water should be used internally at the same time, to carry off impurities, and keep up the full perspiration promoted by the bathing. These baths are equally serviceable in stiffness of the joints and ligaments, which is left by the inflammation of gout and rheumatism, and in the debility of palsy, where the highest degree of heat which the skin can bear is required. In obstinate cases, the vapour-bath, formed by the steam of those very hot waters, is recommended by the German physicians.

Numberless instances serve to establish the efficacy of the waters of Aix as an internal medicine in painful affections of the kidneys and bladder, as well as in disorders of the stomach and biliary organs occasioned by luxurious indulgence and intemperance. The common dose is half a pint, to be repeated more or less often, according to its sensible effects, and to the intention with which it is prescribed, either as a purgative or a diuretic. It is a striking proof of the power of habit, that the palate and stomach are soon reconciled to the use of such waters, though at first extremely disgusting and nauseous.

The hot sulphureous springs at Bareges, two little hamlets on the French side of the Pyrenean mountains, are, indeed, inferior in the degrees of heat and strength of impregnation to the waters of Aix-la-Chapelle, yet are found very beneficial in the like complaints. Their highly detergent powers, owing perhaps to a small portion of oily or bituminous matter, added to the other medicinal properties which they possess in common with those of Aix, render them peculiarly efficacious in deep-seated ulcers, and those morbid affections of the womb, which French ladies call, though not with medical correctness, *depots de lait*. In such cases the waters are

injected. They are also very frequently used in the form of *douche*, or by way of pumping on the part affected, as well as for general bathing.

In the interior parts of France, particularly in the central provinces of Auvergne and the Bourbonnois, now included in the Department of the Loire, there are several hot springs, but of the *saline chalybeate* class, the efficacy of which, as an internal medicine, is greatly increased by their higher degree of temperature, in the disorders for which Cheltenham is resorted to in our own country. Those French springs derive another very important advantage from their heat, that of being used as a bath in all cases which may require that salutary stimulus on the surface. In many of these, the internal and external use of the waters co-operate with wonderful effect; and particularly in the sexual complaints of women, arising from any defect or irregularity in the functions of the uterine organs. Catherine de Medicis, the mother of several French princes, is said to have been much indebted for her fertility to the waters of Bourbon Lancy, not far from the town of Moulins, a place consigned to immortal fame by Sterne's affecting story of "Maria."

There is a village on the confines of Bohemia, where the waters may be said, in the strictest sense of the word, to boil up with vehemence from the spring, and are often used for scalding hogs and fowls, to loosen the hair and feathers, the heat being quite sufficient for these purposes. The temperature of the *Prudel*, or *furious* fountain, as it first issues forth, is as high at 165°, and keeps invariably to the same point. Of course it requires to be very much cooled before it can be used as a bath, or even drank. Those waters are said to have been resorted to, and first brought into considerable notice, by the Emperor Charles IV. in 1370; to which circumstance the village owes its name of *Carlsbad*, or Charles's bath. The natural history of its waters would afford a great variety of curious and interesting particulars; but the limits of my present plan confine me to a short medical notice of their extraordinary virtues in all the diseases for the cure of which *saline chalybeates* are internally or externally employed.

Malvern Water.

Malvern, in Worcestershire, has for many years been celebrated for a spring of such remarkable purity, that it has acquired the name of the Holy Well, from the reputed sanctity of its waters, and the real extensive benefit long derived in various cases from its use.

The great benefit arising from the use of Malvern water as an external remedy in diseases of the skin and surface of the body, has led to its employment in some internal disorders, and often with considerable advantage. Of these the most important are painful affections of the kidneys and bladder, attended with the discharge of bloody, purulent, or fetid urine; the hectic fever produced by scrofulous ulceration of the lungs, or very extensive and irritating sores of the surface of the body, and also fistulæ of long standing that have been neglected, and have become constant and trouble-

some sores. Though unquestionably of benefit in many of these cases, it is in general a safe application, and may be used with the utmost freedom, both as an external dressing for sores, and as a common drink; and this is particularly the case with common people that resort to this spring for diseases of the skin or other sores, who are in the constant habit of dipping their linen into the water, dressing with it quite wet, and renewing this application as often as it dries. The perfect safety of this practice on a preternaturally irritated surface, has been ascertained by long experience, and is in itself an important circumstance in illustrating the effect of moisture on the surface of the body.

The internal use of Malvern water is sometimes, on first beginning to use it, attended with a slight nausea; for the first day or two it occasions some degree of drowsiness, vertigo, or slight pain of the head, which comes on a few minutes after drinking it. These symptoms, however, subside spontaneously in a few days, or may readily be removed by some mild purgative medicine.

The effects of the Malvern water on the bowels are not at all constant; it frequently purges briskly for a few days, nor is it at all uncommon for the body to be rendered costive by its use, especially with those accustomed to malt liquors. In all cases it decidedly increases the flow of urine, and the general health of the patient; his appetite and spirits almost invariably improve during a course of the water, if it agree in the first instance.

In addition to the benefits to be derived from the use of the Malvern water, the pure mountain air, added to the romantic beauty of the situation, which solicit the invalid to active exercise, contribute greatly to the convalescent state; and the temperance generally observed by patients of every rank in these places, assists materially in securing the advantage which has been gained from the use of this mineral spring.

A course of Malvern water must vary very considerably in duration, on account of the different kinds of disease for which this spring is resorted to. Cases of obstinate scrofulous sores, especially with caries in any bone, are always long in healing, and require a residence here for a considerable time. The same may be said of very obstinate herpetic eruptions; but where the cutaneous affection is mild, or where a tendency to it comes on at stated times, which is sometimes the case, this habit may be checked by a short use of this water; and hence some persons who are liable to this disorder, make an annual visit to this salubrious spring.

Aluminous Chalybeate Spring in the Isle of Wight.

This spring, discovered by a Mr. Waterworth, is situated on the south-west coast of the Isle of Wight, about two miles to the westward of Nitron, in one of those romantic spots for which that coast is so remarkable.

From a tabular view of the diseases which preceded a course of this mineral spring, furnished by Dr. Lempriere, who had the opportunity of witnessing the effects of this water upon an extensive scale, it appears that many patients, labouring under continued fever, agues, pulmonic diseases, chronic dysentery, chronic rheu-

matism with emaciation, diseases of the abdominal viscera, dropsy &c. were benefited.

"In giving this water," observes Dr. Lempriere, "I was very forcibly struck with the rapid effect it produced on the appetite and spirits, and the confidence it inspired in the mind of the patient." The improvement of the appetite was soon succeeded by an increase of strength, and a return of the natural complexion. The water did not appear to produce any effect upon the pulse or skin, nor did it act particularly on the kidneys; its tendency to increase the appetite and raise the spirits was the only evident effect to be observed during the early course; and a return of strength, and general appearance of improved health, marked its later progress. In administering the water, it was a rule previously to devote one day to clearing the bowels by some suitable aperient; and Epsom salts were the medicine generally preferred. Under this preparative, the water seldom produced any disagreeable effect on the stomach or bowels, or rendered it necessary, during the course, to take laxative medicines; an advantage which does not attach to other chalybeate waters, unless they hold in solution a considerable portion of some aperient salt.

It is advisable to begin the use of these waters in very small proportions, using it in a diluted state when, from peculiarity of constitution, it appears to excite nausea, increasing it gradually when this may be done with safety, combining with its use a nutritive diet, without excess, paying strict attention to the state of the bowels, so as to avoid costiveness, early hours, particularly early rising, exercise in the open air, more especially on horseback, and sea-bathing, when not otherwise prohibited.

CHAP. XIV.

VEGETABLE POISONS.

All vegetable poisons act upon the nervous system. Those of an irritating nature are Monkshood, Meadow Saffron, Mezereon, Bear's Foot, Hemlock Dropwort, Water Hemlock, Wall-Pepper, &c. The general symptoms they produce when taken are, an acrid pungent taste, with more or less bitterness, excessive heat, great dryness of the mouth and throat, accompanied with a sense of tightness there; violent vomiting, and the efforts continued even after the stomach is emptied; purging, with great pain in the stomach and bowels; pulse strong, frequent, and regular; breathing often quick and difficult; appearance of intoxication; the pupil of the eye frequently dilated; insensibility, resembling death; the pulse becomes slow and loses its force, until death closes the scene.

Externally applied, many of the vegetable poisons produce violent inflammation of the skin, with vessications, or pustulary eruptions.

Treatment.—If vomiting has been occasioned by the poison, and the efforts are still continued, they may be rendered easier by

swallowing copious draughts of warm water, or thin gruel; but should insensibility have come on without vomiting, it ought immediately to be excited by some powerful emetic, as the sulphate of zinc, (twenty grains dissolved in half a tea-cupful of water) or sulphate of copper, from ten to fifteen grains; after the operation of which, a brisk purgative should be given, and emollient or stimulating clysters administered, as the urgency of the case may require.

A preferable and more expeditious mode, provided it can readily be procured, of dislodging the poison, mineral or vegetable, is the stomach-pump; as this, however, requires some anatomical knowledge, a medical practitioner, having one of these valuable machines in his possession, should be instantly sent for, in the meantime either of the preceding, or other emetics, being given.

After as much as possible of the poison is dislodged, either by emetics or other means, a very strong infusion of coffee, or vinegar diluted with water, may be then given with advantage.* Camphor-mixture with ether (two ounces of the former to half a drachm of the latter,) may be taken frequently; and should the insensibility increase, warmth, friction, and blisters may be employed. If inflammation, or other dangerous consequences have arisen, these must be treated accordingly.

NARCOTIC POISONS.—Among the narcotic poisons are enumerated the following: Deadly Nightshade, Hemlock, Foxglove, Henbane, Tobacco, Opium, Woody Nightshade,† &c. &c. The general symptoms of these, when taken into the stomach, or applied to a wound, produce the following effects: viz. stupor, numbness, heaviness in the head, desire to vomit, at first slight, but afterwards insupportable; a sort of intoxication, stupid air, the pupil of the eye dilated, furious or lively delirium, sometimes pain, convulsions of different parts of the body, or palsy of the limbs. The pulse is variable, but at first generally strong and full; the breathing is quick, and there is great anxiety and dejection, which, if not speedily relieved, soon terminates in death.

Treatment.—In the treatment of persons labouring under the influence of narcotic poison, the principal attention should be directed to rouse the sensibility of the system, so as to render the stomach susceptible to the irritation of emetics, and the action of other stimulants. Late experience has proved that the best mode of effecting this is by repeatedly dashing cold water over the head and neck, whilst the other parts of the body are kept warm and dry. Applying the solution of ammonia to the nostrils by means of a feather, introducing a drop or two of the spirit of hartshorn into each eye, sprinkling cowhage over the neck, breast, and hands, and applying a mustard-plaster over the seat of the stomach, have been attended with good effects. The best form of an emetic, in

* The fruit of the Fewillea cordifolia has latterly been recommended as a powerful antidote against vegetable poisons; and is directed to be used in as recent a state as possible. Ed.

† All plants whose flowers have five stamens, one pistil, one petal, and whose fruit is of the berry kind, may at once be pronounced as poisonous. The umbelliferous plants which grow in *water*, are mostly poisonous; and such as have the corolla purple and yellow, may be suspected of being so. Ed.

these cases, is the subjoined draught.* Should this, however, fail, four or five grains of tartar emetic, or from ten to twenty of the sulphate of zinc, should be introduced into the stomach every quarter of an hour, and vomiting excited and assisted by irritating the fauces with the finger, or the end of a feather. Large and strong clysters of soap, dissolved in water, or of thin gruel, into which a table-spoonful of salt may be put, should be speedily administered, to clear the bowels, and to assist in getting the poison dislodged, giving active purgatives after the poison has ceased; after which the strong coffee and diluted vinegar and water may be given, as above directed. If by these means the stupor and drowsiness, which is sometimes extreme, and the insensibility bordering on apoplexy, be not remedied, blood may be taken from the jugular vein, blisters applied to the neck and legs, and the sensibility roused by every possible means. If the heat of the body decline, warmth and friction must be perseveringly used to restore it. Vegetable acids are on no account to be given before the poison is expelled; and it is even desirable that as little fluid as possible, of any description, should be given. The stomach-pump, if it can be procured and adopted without loss of time, should precede these means, as the most effective in dislodging the poison.

POISONOUS MUSHROOMS.—Among these are the Pepper Agaric, Deadly Agaric, Champignon, which are frequently mistaken for the edible mushroom.† The symptoms they produce are nausea, heat and pain in the stomach and bowels, with vomiting and purging; thirst, convulsions, and faintings; small and frequent pulse; delirium, dilated pupil, stupor, cold sweats, and often death.

Treatment.—In the first place, when any of the above symptoms arise, after eating mushrooms, an emetic of tartarized antimony, followed by frequent doses of Glauber or Epsom salts, and large stimulating clysters, are to be speedily administered. After the contents of the stomach are thoroughly evacuated, ether may be given in small quantities of brandy and water; but should inflammatory symptoms supervene, these and other stimuli must be laid aside, and means accordingly adopted to combat them. See Mineral Poisons, &c. p. 342.

CHAP. XV.

POISONOUS FISH, &c.

Of this class are the Yellow-billed Sprat, Sea Lobster,

* Take Subcarbonate of Ammonia, 1 scr.
Ipecacuanha Powder, ½ drachm.
Tincture of Capsicum, 2 drs.
Peppermint Water, 3 ounces.
Mix for an emetic; to be taken immediately.

† Poisonous mushrooms may be distinguished from such as are eatable, by attending to their botanical characters; and by the following remarks: Poisonous mushrooms grow in wet shady places; they have a nauseous smell, are softer, more open and porous than the edible ones. They have also a dirty-looking surface, sometimes a gaudy colour, or many very distinct hues, particularly if they have been covered with an envelope. They have soft bulbous stalks, grow rapidly, and very soon corrupt. Ed.

Land Crab, Conger Eel, Muscle, Rock Fish, &c. In an hour or two after eating stale fish, or often in much less time, a sense of weight at the stomach comes on, with slight vertigo and headach, heat about the head and eyes, and considerable thirst; often an eruption of the skin similar to what is called the nettle rash; and, in some instances, death has been the consequence.

Treatment.—An emetic should be taken as soon as any of the preceding symptoms, after eating any of the above fish, begin to manifest themselves; and where it cannot readily be procured, vomiting may be excited by tickling the throat with the finger, and taking large draughts of warm water. After full vomiting an active purgative should be given to remove any of the noxious matter that may have found its way into the intestines. Vinegar and water may be drank after the operation of these remedies, with which also the body may be sponged. Water made very sweet with sugar, to which some ether may be added, may be drank freely as a corrective; and a very weak solution of alkali may be given to obviate the effects produced by the poison. If spasms come on after the evacuations, large doses of the tincture of opium are necessary. If inflammation arise, the usual means of removing it must be employed.—See Animal Poison, p. 112, &c.*

CHAP. XVI.

VACCINATION.

As a preventive of the small-pox, the vaccine inoculation is now universally practised. This generally produces a very mild and safe disease, consisting of a single vesicle forming on the place where the inoculation was performed. On the third day, the scratch where the vaccine matter was introduced is slightly red, and, if pressed with the finger, feels hard. Next day, the red point is a little increased, and somewhat radiated. On the fifth day, a small vesicle appears, but it is more easily seen on the sixth. This gradually increases, until it acquires the size of a split pea. The colour of the vesicle is dull white, like a pearl. Its shape is circular, or slightly oval when the inoculation has been made with a lengthened scratch, acquiring about the tenth day a diameter equal to about the third or fourth part of an inch. Till the end of the eighth day, the surface is uneven, being depressed in the centre, but on the ninth day it becomes flat, or sometimes higher at the middle than at the edges. The margins are tinged and rounded, projecting a little over the base of the vesicle. The vesicle is not simple, but cellular, and contains a clear limpid fluid, like the purest water.

On the eighth or ninth day, the vesicle is surrounded with an areola or circle of intense red colour, which is hard and tumid. About this time an erythematic efflorescence sometimes takes

* See *New London Medical Pocket Book*, p. 234, to p. 249, for an excellent history of mineral, vegetable, animal, and aerial poisons, &c.

place near the areola, and spreads gradually to a considerable part of the body. It consists of patches, slightly elevated, and is attended with symptoms of fever. On the eleventh or twelfth day, as the areola decreases, the surface of the vesicle becomes brown at the centre, and is not so clean at the margin; the cuticle gives way, and there is found a glassy hard scab, of a reddish brown colour, which is not detached, in general, till the twentieth day. When it falls off, a scar about half an inch in diameter is seen, and having as many pits as there were cells in the vesicles.

During the progress of the vesicle, there is often some disorder of the constitution; and occasionally a papulous eruption, like scrophulus, appears next the vesicle. As security against the small-pox is not secured by spurious vaccine vesicles, it becomes necessary to study carefully the character of the genuine disease, which is here briefly described.

CHAP. XVII.

SEA-SICKNESS.

The cause of this distressing affection is the well-known motion of a vessel on the surface of the water. Some thousands are annually, nay daily, prevented from going to sea, either upon business, health or pleasure, in consequence of the terror of the waves. The most alarming, nay even fatal, consequences have been known to result from the violent retching and vomiting produced by the motion of the vessel, without it being in the power of any one to stop it; for, if it be true that sea-sickness is only to be cured by habit,* what hope can be held out to the afflicted that they will acquire this habit, without inconvenience, and without risk; such as the bursting of a blood vessel, apoplexy, idiotcy, blindness, abortion, &c., which have been known to result from excessive straining and vomiting?

People of delicate constitutions are known to derive considerable benefit from sailing on the sea; though frequently the good they have received has been more than counterbalanced by the in-

* With the exception of Dr. Stevenson's *Imperial Marine Tincture*, which, for the last ten or twelve years, has been privately made and sold, we never before heard of any preparation having a decided effect on this peculiar malady. It is, however, but common justice to confess, that this tincture has, in conjunction with its other virtues, every claim to the appellation of a specific for this affection, as was witnessed by us in no less than twelve passengers, male and female, from London to Leith; and on nearly an equal number, with the same effect, from Leith to London, in the year 1817, and frequently since. It possesses also the no less singular quality of completely arresting the distressing vomiting to which ladies at various stages of pregnancy are liable. In general debilities and relaxation from long residence in hot climates, the abuse of mercury, excessive drinking, and other species of intemperance; excessive and debilitating evacuations in women, and the concomitant nervous affections, indigestion, &c. the *Imperial Marine Tincture* is one of the most valuable remedies that ever the ingenuity or talent of man could possibly devise for the relief of suffering humanity. It is an elegant preparation. purely vegetable; its properties are those of an agreeable tonic, requiring no increase of dose to reproduce or keep up its effects; it promotes the general circulation, and communicates a congenial warmth over the whole system, which its use invigorates and enlivens, &c. Its analysis has frequently been attempted, but without success.

jurious effects that have been caused by the violent sickness thereby occasioned.

Those who intend to travel by sea, and are apprehensive of sickness, should previously use gentle aperients; and afterwards, to alleviate the nausea and vomiting, drink soda-water in a state of effervescence; live sparingly; take up their station as near the middle of the ship as possible; sleep in a hammock or cot, in preference to a cabin, with their head towards the stern of the vessel; and while they are upon deck to look always in the direction the ship is sailing. Persons of a plethoric constitution should purge, and lose a little blood from the arm.

The Imperial Marine Tincture, in doses of one, two, or three tea-spoonsful every quarter of an hour, has the remarkable effect, in the course of a few doses, of completely removing all the symptoms; indeed, this is so valuable a medicine, of the nostrum-kind, for this and other affections, that whether by land or sea, in hot, or cold, or temperate climates, it must always prove a safe and most useful medicine to resort to on emergencies.

Many persons, on the least motion of a vessel, are instantly taken with nausea and vomiting. Whenever the latter occurs, it should be encouraged, until the contents of the stomach are ejected, by copious drafts of tepid water; after which, a tea-spoonful or two of the Imperial Marine Tincture effectually prevents any recurrence of these unpleasant symptoms.

The many flattering encomia that have been lavished upon this valuable preparation in sea-sickness and nervous affections in general, render it, from the smallness of the dose, and the safety with which it may be taken, an object of some consideration, where such a medicine of the kind may be required.

APPENDIX:

CONTAINING

1. A List of Simples and of such Medicinal Preparations as are commonly used in Practice, with their proper Doses.

2. The Method of preparing and compounding such Medicines as are recommended in the former Part of the Book, with the Addition of several others of a similar Nature.

3. Remarks on the Doses, Uses, and Manner of applying the different Preparations.

THE design of the following pages is, to exhibit such a list of drugs and medicines as may be necessary for private practice. They are considerably more numerous indeed than those recommended in the former part of the book, but are still greatly within the number contained in the most reformed dispensatories. The same medicine is seldom exhibited under different forms; and where different medicines answer nearly the same intention, there is commonly no more than one of them retained. Multiplying forms of medicine for the same intention tends rather to bewilder than assist the young practitioner, and the experienced physician can never be at a loss to vary his prescriptions as occasion requires. The chemical and other difficult preparations are for the most part omitted. All of them that are used by any private practitioner are not worth preparing. He will buy them much cheaper than he can make them. Great care, however, is necessary to obtain them genuine. They are often adulterated, and ought never to be purchased unless from persons of known veracity. Such of them as are in common use are inserted in the lists of drugs and medicines. Their proper doses and manner of application are mentioned in the practical part of the book, wherever they are prescribed.

Such articles of medicines as are to be found in the house or garden of almost every peasant, as barley, eggs, onions, &c. are likewise for the most part omitted. It is needless to swell a list of medicines with such things as can be obtained whenever they are wanted, and which spoil by being kept.

The preparations made and sold by distillers and confectioners are also generally left out. These people, by operating upon a larger plan, generally make things better, while it is in their power to afford them much cheaper than they can be prepared by any private hand.—The quantity ordered of every medicine is as small as could well be prepared, both to prevent unnecessary expense, and that the medicine might not spoil by keeping. Almost every medicine suffers by being kept, and should be used as soon after it has been prepared as possible. Even simple drugs are apt to spoil, and should therefore be laid in in small quantities; they either rot, are consumed by insects, or evaporate so as to lose their peculiar taste or flavour, and often become quite insignificant.

In several compositions, the ingredient on which the efficacy of the medicine principally depends is increased, while the auxiliaries, which are generally ordered in such trifling quantities as to be of no importance, are left out, or only such of them retained as are necessary to give the medicine a proper consistence, or the like.

The colouring ingredients are likewise for the most part omitted. They increase the bulk and price of the medicine; without adding any thing to its value. It would be well if they were never used at all. Medicines are often adulterated for the sake of a colour. Acrid and even poisonous substances are, for this purpose, sometimes introduced into those medicines which ought to be most bland and emollient. Ointment of elder, for example, is often mixed with verdegrise to give it a fine green colour, which entirely frustrates the intention of that mild ointment. Those who wish to obtain genuine medicines should pay no regard to their colour.

Some regard is likewise paid to expense. Such ingredients as greatly increase the price of any composition, without adding considerably to its virtue, are generally either omitted, or somewhat less expensive substituted in their place. Medicines are by no means powerful in proportion to their price. The cheapest are often the best; besides, they are the least apt to be adulterated, and are always most readily obtained.

With regard to the method of compounding medicines, I have generally followed that which seemed to be the most simple and natural, mentioning the different steps

of the process in the same order in which they ought to be taken, without paying an implicit regard to the method of other dispensatories.

I have followed the alphabetical order, both with regard to the simples and preparations. A more scientific method would have been agreeable to some persons, but less useful to the generality of readers. The different classes of medicine have no great dependence upon one another, and, where they have, it is hard to say which should stand first or last; no doubt the simple preparations ought to precede the more compound. But all the advantages arising from this method of arrangement do not appear equal to that single one, of being able, on the first opening of the book, to find out any article, which, by the alphabetical order, is rendered quite easy.

The dose of every medicine is mentioned, whenever it appeared necessary. When this is omitted, it is to be understood that the medicine may be used at discretion. The dose mentioned is always for an adult, unless when the contrary is expressed. It is not an easy matter to proportion the doses of medicine exactly to the different ages, constitutions, &c. of patients; but, happily for mankind, mathematical exactness here is by no means necessary.

Several attempts have been made to ascertain the proportional doses for the different ages and constitutions of patients; but, after all that can be said upon this subject, a great deal must be left to the judgment and skill of the person who administers the medicine. The following general proportions may be observed; but they are by no means intended for exact rules. A patient between twenty and fourteen may take two-thirds of the dose ordered for an adult; from fourteen to nine, one-half; from nine to six, one-third; from six to four, one-fourth; from four to two, one-sixth; from two to one, a tenth; and below one, a twelfth.

To prevent mistakes, the English name of every medicine is not only used, but the different articles are arranged according to the order of the English alphabet, and the smallest and largest dose placed opposite to the operation of each article. The doses indeed refer to adults, but may be adapted to different ages by attending to the rules laid down in the opposite page. Short cautions are occasionally inserted under such articles as require to be used with care.

Though a greater variety of medicines is contained in this than in any former edition of the Domestic medicine, yet the Author would advise those who peruse it, as far as possible, to adhere to simplicity in practice. Diseases are not cured by multiplicity of medicines, but by their proper application. A few simples, judiciously administered, and accompanied with a proper regimen, will do more good than a farrago of medicines employed at random.

A LIST

OF THE

MEDICINES COMMONLY USED IN PRACTICE,

WITH THEIR PARTICULAR VIRTUES AND PROPER DOSES.

*** Explanation of the Abbreviations used in the following Doses: scr. scruple, scrs. scruples, dr. drachm, drs. drachms, oz. ounce, drps. drops, gr. grain, grs. grains, grad. gradually.

Names.	*Properties.*	*Doses.*
ACACIA, the expressed juice, from	Demulcent.	1 scr. to 1 dr.
Acid, the acetous	Refrigerant, &c.	1 scr. - 1 dr.
——, muriatic	Antiseptic, &c.	10 drps. - 40 drps.
——, nitrous, diluted	Tonic, Febrifuge, &c.	15 drps. - 40 drps.
——, vitriolic, diluted	Tonic, Antiseptic.	15 drps. - 40 drps.
Æther, vitriolic	Anodyne.	30 drps. - 2 drs.
Æthiop's mineral	Alterative.	10 grs. - 30 grs.
Agaric, *used externally as a styptic, to staunch blood.*		
Aloes	Emenagogue, &c.	5 grs. - 30 grs.
Alum	Astringent.	6 grs. - 20 grs.
——, burned	Escharotic, &c.	3 grs. - 12 grs.
Amber, prepared	Antispasmodic.	½ dr. - 1 dr.
Ammoniac, gum	Expectorant.	5 grs. - 30 grs.
——————, milk of	Expectorant.	½ oz. - 1 oz.
Angelica, the root powdered	Stimulant, &c.	½ dr. - 1½ dr.
Anise, the seeds	Carminative.	10 grs. - 1 dr.
Antimony, crude	Febrifuge, &c.	10 grs. - 1 dr.
——————, calcined	Febrifuge.	1 scr. - 1 dr.
——————, cinnabar of	Diaphoretic.	10 grs. - 1 scr.
——————, glass of	Emetic, never used.	¼ gr. - 2 grs.
——————, tartarized	Emetic.	¼ gr. - 4 grs.
Asafœtida,	Emenagogue, Expectorant, and Antispasmodic.	grs. - ½ dr.
——————, milk of	Antispasmodic, &c.	½ oz. - 1 oz.
Asarum,	Emetic and Errhine.	3 grs. - 5 grs.
Balsam of capivi	Diuretic, &c.	20 drps. - 60 drps.
——— Canadian	Diuretic, &c.	½ scr. - ½ dr.
——— of Peru	Expectorant, Stimulant.	— —
——— of Tolu	Stimulant, Expectorant.	15 grs. - 2 scrs.
Bark, cascarilla	Tonic, &c.	10 grs. - 1 dr.
——, Peruvian, powder of	Tonic.	1 scr. - 2 drs.
Bear's foot, powder of the leaves	Narcotic.	10 grs. - 20 grs.
Benzoin, resin of, not employed internally, and principally for obtaining Benzoic acid.		
Bistort, powder of the root	Astringent.	1 scr. - 1 dr.
Blessed Thistle	Tonic, Emetic.	10 grs. - 1 dr.
——————, expressed, juice of	*The same.*	2 drs. - 2 oz.
Bole, Armenian	Astringent.	10 grs. - 2 drs.
——, French	*The same.*	— —
Borax, rarely used internally	Detergent.	10 grs. - 40 grs.
Broom, ashes of the tops	Diuretic.	1 scr. - 1 dr.
Burdock, powder of the root	Sudorific, &c.	10 grs. - 1 dr.
Calamine stone, levigated, *used externally in Turner's cerate.*		
Calomel	Alterative.	1 gr. - 3 grs.
	Purgative.	3 grs. - 12 grs.

Names.	*Properties.*	*Doses.*
Camphor	Narcotic, Diaphoretic.	2 grs. to ½. 1 scr.
Canella alba, powder of	Tonic, Carminative.	1 scr. to 2 drs.
Cantharides	Stimulant, Diuretic.	½ gr. - 4 grs.
Cardamoms	Carminative.	5 grs. - 20 grs.
Caraway seeds	Carminative.	10 grs. - 40 grs.
Carrot, seed of the wild	Carminative.	1 scr. - 1 dr.
Cascarilla bark	Tonic.	10 grs. - 40 grs.
Cassia, the pulp	Laxative.	2 drs. - 1 oz.
Castor	Antispasmodic.	8 grs. - 1 dr.
Caustic, lunar; used *externally* as an escharotic; *internally*, gr. ⅛, cautiously increased to grs. ij. in epilepsy.		
Catechu	Astringent.	15 grs. - 30 grs.
Camomile, in powder	Tonic.	20 grs. - 1 dr.
Centaury, the lesser	Tonic.	1 scr. - 1 dr.
Chalk	Absorbent.	20 grs. - 2 scrs.
Cinnamon	Carminative.	5 grs. - 1 dr.
Colocynth	Violently Cathartic.	2 grs. - 10 grs.
Columbo	Tonic.	10 grs. - 1 dr.
Confection, aromatic	Cordial.	10 grs. - 2 scrs.
———, opiate	Anodyne.	10 grs. - 2 scrs.
Crab's claws, prepared	Absorbent.	10 grs. - 1 dr.
Conserve of roses	Astringent.	1 dr. - 1 oz.
Contrayerva	Febrifuge.	10 grs. - 2 scrs.
Coriander seed	Carminative.	15 grs. - 1 dr.
Cowhage,	Vermifuge.	The spiculæ of one pod mixed with honey or molasses.
Cummin seed	Stimulant.	1 scr. - 1 dr.
Dandelion, expressed juice of	Diuretic.	1 oz. - 3 oz.
Decoction of hartshorn	Demulcent.	Half a pint, repeated as often as necessary.
——— of broom tops	Diuretic.	1 oz. to a pint of water; to be taken by teacupsful.
——— of Peruvian bark	Tonic.	1 oz. - 4 oz.
——— of the inner bark of the elm	Diuretic.	4 oz. - 10 oz. daily.
——— of sarsaparilla	Alterative & diaphoretic.	4 oz. - 16 oz. daily.
Decoction of sarsaparilla, compound	Alterative & diaphoretic.	4 oz. - 16 oz. daily.
——— of guaiacum	Diaphoretic.	3 drachms to a pint of water. A pint daily.
Deadly night shade	Narcotic, gr. ½ to grs. ij. of the powdered leaves.	
Dragon's blood	Astringent.	10 grs. - 2 scrs.
Earth, fuller's, use external in excoriations	Astringent.	
Electuary of cassia	Aperient.	1 dr. - 1 oz.
——— of scammony	Purgative.	20 grs. - 2 drs.
——— lenitive, or of senna	Purgative.	30 grs. - 6 drs.
Elixir of vitriol	Tonic.	15 drps. - 50 drps
Elecampane, powder of the root	Stimulant.	20 grs. - 1 dr.
Extract of broom-tops	Diuretic.	½ dr. - 1 dr.
——— Peruvian bark	Tonic.	10 grs. - ½ dr.
——— cascarilla	Tonic.	10 grs. - ½ dr.
——— camomile	Tonic.	10 grs. - 1 dr.
——— colocynth comp.	Cathartic.	5 grs. - 25 grs.
Extract of gentian	Stomachic.	10 grs. - ½ dr.
——— hemlock	Alterative.	2 grs. - 10 grs.
——— liquorice	Demulcent.	1 dr. - ½ oz.
——— logwood	Astringent.	10 grs. - ½ dr.
——— black hellebore	Emenagogue.	3 grs. - 10 grs.
——— jalap	Purgative.	5 grs. - 20 grs.
——— guaiacum	Diaphoretic.	10 grs. - 20 grs.
——— white poppies	Anodyne.	1 gr. - 5 grs.
——— rue	Emenagogue.	10 grs. - 20 grs.
——— savin	*The same.*	10 grs. - 30 grs.
——— senna	Aperient.	10 grs. - 30 grs.
——— wormwood	Tonic.	10 grs. - 30 grs.
Fern, powder of the root	Vermifuge.	½ dr. - ½ oz.

Names.	*Properties.*	*Doses.*
Fennel seed	Aromatic.	20 grs. to 1 dr.
Foxglove, powder of the leaves	Diuretic.	½ gr. - 3 grs.
	or a drachm infused in a pint of boiling water, of which a dose is	1 oz.
	(Administered with caution.)	
Frankincense		10 grs. - 30 grs.
Flowers of camomile, powder of	Tonic.	10 grs. - 1 dr.
——— elder	Cathartic, &c.	Ad libitum.
——— rosemary	Emenagogue.	
——— damask roses, rarely employed unless to make rose-water.	Laxative.	
——— red ditto, in infusion	Astringent.	
Fruits. Almonds	Demulcent.	
——— Figs, dried	Aperient.	
——— French prunes	Aperient.	
——— Tamarinds	Aperient.	
Galbanum	Deobstruent.	10 grs. - ½ dr.
Galls	Astringent.	10 grs. - 20 grs.
Garlic, cloves of	Expectorant.	No. 1. - No. 6.
Gentian	Tonic.	10 grs. - 40 grs.
Germander	Tonic.	15 grs. - 1 dr.
Ginger	Carminative.	5 grs. - 20 grs.
Ginseng		20 grs. - 30 grs.
Guaiacum, wood of	Diaphoretic.	
———, gum-resin	*The same.*	10 grs. - 30 grs.
Gum-arabic	Demulcent.	15 grs. - 1 dr.
——- gamboge	Hydragogue.	2 grs. - 12 grs.
Hartshorn, prepared	Emollient.	20 grs. - 1 dr.
———, spirits of		10 drps. - 40 drps.
Hellebore, black	Emenagogue.	5 grs. - 10 grs.
———, white	Emetic, &c.	1 gr. - 5 grs.
Hemlock	Narcotic.	Should always be begun with very small doses, as one grain or less, and gradually increased as the constitution will bear. See extract of.
Hiera picra	Purgative.	10 grs. - 20 grs.
Honey of squills	Diuretic.	10 grs. - 40 grs.
——— of roses	Astringent.	1 dr. - 2 drs.
Hoffman's anodyne liquor	Anodyne, &c.	20 drps. - 60 drps.
Infusion of gentian, compound	Tonic.	1 oz. - 3 oz.
——— roses	Astringent.	2 oz. - 8 oz.
——— senna	Aperient.	½ oz. - 2 oz.
Ipecacuanha	Emetic, and expectorant, gr. i. to iij.	10 grs. - 30 grs.
Iris, florentine	Tonic.	1 scr. - 1 dr.
Iron, rust of	Tonic.	5 grs. - 20 grs.
——, ammoniated	*The same.*	2 grs. - 10 grs.
——, tartarized	Tonic.	2 grs. - 10 grs.
Jalap, powder of	Purgative.	10 grs. - 40 grs.
Juniper, powder of the berries	Diuretic.	20 grs. 1 dr.
Kino, gum	Astringent.	10 grs. - 30 grs.
Lead, white	Astringent.	½ gr. - 2 grs.
——-, sugar of		
Lichen, ash-coloured, ground	Demulcent.	10 grs. - 40 grs.
——— Icelandic, a strong decoction of	*The same.*	1 oz. - 4 oz.
Lime-water	Refrigerant.	4 oz. - 8 oz.
Lixivium of tartar	Lethontriptic.	15 drps. - 40 drps.
Linseed	Demulcent.	An infusion of 1 ounce to a quart of water, may be used at pleasure.
Liquorice, root of	Demulcent.	½ dr. - 1 dr

Names.	*Properties.*	*Doses.*
Madder powder		½ dr - 1 dr.
Mace	Stomachic.	10 grs. - 20 grs.
Magnesia	Antacid.	½ dr. - 2 drs.
———, calcined	*The same.*	— —
Manna	Aperient.	½ oz. - 2 oz.
Marsh-mallows, root and leaves of	Demulcent.	½ dr. - 1 dr.
Mastich, gum	Carminative.	10 grs. - 30 grs.
Mercury, crude		
———, calcined	Alterative.	½ gr. - 2 grs.
———, with chalk	Alterative, Antisyphilitic.	10 grs. - 30 grs.
———, corrosive sublimate	*The same.*	⅛ gr. - ½ gr.
———, cinnabar of	Alterative, &c.	10 grs. - 30 grs.
———, red precipitate of ———, white ditto	Use chiefly external.	
———, yellow emetic	Sternutatory.	1 gr. - 3 grs.
Mezereon	Sialogogue in Decoct.	To a pint of water, 2 drs.
Millipedes	Expectorant.	20 grs. - 2 drs.
Musk	Antispasmodic.	5 grs. - 40 grs.
Mustard seed	Stimulant. Emetic.	1 dr. - 1 oz.
Myrrh, gum	Expectorant.	10 grs. - 1 dr.
Nitre, purified	Diuretic.	10 grs. - 30 grs.
Nutmeg	Stomachic.	6 grs. - ½ dr.
Oil of Almonds	Demulcent.	½ oz. - 1 oz.
—— amber, rectified	Antispasmodic	10 drps. - 30 drps.
—— anniseed	Carminative.	1 drp. - 5 drps.
—— castor		2 drs. - 1 oz.
—— cinnamon	Stimulant.	1 drp. - 3 drps.
—— juniper	Diuretic.	2 drps. - 10 drps.
—— lemon peel		2 drps. - 5 drps.
—— linseed	Demulcent.	½ oz. - 1 oz.
—— olive	Demulcent, Laxative.	½ oz. - 1 oz.
—— palm	Use external.	
—— peppermint	Stimulant, &c.	1 drp. - 3 drps.
—— turpenne	Diuretic. Externally, stimulant.	10 drps. - 30 drps.
Onion, expressed juice of	A powerful diuretic.	½ oz. - 2 oz.
Opium	Narcotic.	½ gr. - 2 grs.
Opoponax	Emenagogue.	10 grs. - 30 grs.
Oyster-shells, prepared	Absorbent.	½ dr. - 2 drs.
Oxymel of colchicum	Expectorant.	½ dr. - 1 dr.
——— of squills	Diuretic.	½ dr. - 1 dr.
Pennyroyal	Emenagogue.	
Peppermint	Stimulant.	
Petroleum	Antispasmodic.	10 drps. - 30 drps.
Pills, aloetic	Purgative.	10 grs. - 30 grs.
——, of the gums	Diuretic.	10 grs. - 30 grs.
——, mercurial	Antisyphilitic.	10 grs. - 20 grs.
Pitch, Burgundy		
Pomegranate, powder of		20 grs. - 1 dr.
Poppy heads	Anodyne.	
Powder, antimonial	Febrifuge.	3 grs. - 6 grs.
May be taken according to the directions for James's powder, with which, in effects, it nearly coincides.		
——— of contrayerva, compound	*The same.*	15 grs. - 30 grs.
——— of chalk, compound	Absorbent.	20 grs. - 40 grs.
————————, with opium	Absorbent and anodyne.	10 grs. - 40 grs.
Powder of ipecacuanha, compound, or Dover's-powder.	Diaphoretic.	10 grs. - 30 grs.
Quassia	Tonic. (One drachm to a pint of water for an infusion.)	5 grs. - 30 grs.
Quince seeds, mucilage of,	Demulcent. At pleasure, to obtund acrimony.	
Rhubarb, powder of	Purgative.	10 grs. - 40 grs.
Resin, yellow	Diuretic.	3 grs. - 20 grs.
Rue powder	Emenagogue.	20 grs. - 40 grs.
Sassafras	Diaphoretic, Alterative, &c.	1 scr. - 1 dr.

Names.	*Properties.*	*Doses.*
Savin	Emenagogue.	10 grs. - 30 grs.
St. John's wort	Diaphoretic.	20 grs. - 1 dr.
Saffron	Cordial, &c.	5 grs. - 20 grs.
Sagapenum		10 grs. - 30 grs.
Sal ammoniac	Stimulant.	10 grs. - 30 grs.
Salt, Epsom	Aperient.	2 drs. - 1 oz.
——, Glauber	Aperient.	4 drs. - 2 oz.
—— of hartshorn	Cordial.	10 grs. - 20 grs.
—— Polychrest	Aperient.	20 grs. - ½ oz.
—— Rochel	Aperient.	2 scrs. - 1 oz.
—— of tartar	Aperient.	10 grs. - 30 grs.
Saunders, red	Astringent.	½ dr. - 1 dr.
Sarsaparilla, powder of	Alterative.	20 grs. - 40 grs.
Scammony	Cathartic.	5 grs. - 20 grs.
Seneka	Diaphoretic.	20 grs. - 40 grs.
Senna	Aperient.	20 grs. - 40 grs.
Soap	Lithontriptic.	20 grs. - ½ oz.
—— lees	*The same.*	10 drps. - 30 drps.
Spearmint	Stimulant. Cordial.	10 grs. - 2 scrs.
Senna	Aperient.	1 scr. - 1 dr.
Scurvy-grass, expressed juice	Antiscorbutic.	1 oz. - 4 oz.
Snake-root	Diaphoretic.	20 grs. - 40 grs.
Sorrel, juice of, depurated	Antiscorbutic.	2 oz. - 4 oz.
Spirit of lavender	Cordial, Stimulant.	1 dr. - 2 drs.
—— of mindererus	Diaphoretic.	1 dr. - 1 oz.
—— sweet, of vitriol	Tonic.	15 drps. - 40 drps.
—————— of nitre	Diuretic.	15 drps. - 40 drps.
—— of sal ammoniac	Diaphoretic, &c.	15 drps. - 40 drps.
—————— compound		— —
—————— fœtid	Antispasmodic, &c.	— —
Steel, filings of	Tonic, Emenagogue.	5 grs. - 1 scr.
Spermaceti	Demulcent.	20 grs. - 1 dr.
Sponge, burned	Deobstruent.	20 grs. - 1 dr.
Storax	Astringent, &c.	10 grs. - ½ dr.
Sulphur	Cathartic and diaphoretic.	20 grs. - 1 dr.
——, precipitated, of antimony	Alterative.	1 gr. - 4 grs.
Squill, dried powder	Diuretic.	1 gr. - 3 grs.
——, fresh	*The same.*	5 grs. - 15 grs.
Syrup of poppies	Anodyne.	½ dr. - ½ oz.
—— of buckthorn	Cathartic.	1 dr. - 2 drs.
—— of ginger	Carminative.	1 dr. - ½ oz.
—— of meadow saffron	Diuretic, &c.	1 dr. grad. to 1 oz.
—— of violets	Gently laxative.	1 dr. - 2 drs.
—— of poppies	Anodyne. To children,	1 dr. - 2 oz.
——'s in general		1 dr. - 2 drs.
Tar	Pulmonary.	5 grs. - 1 scr.
—, water of		A pint daily.
Tartar, cream of	Refrigerant and aperient.	2 drs. - 1 oz.
——, emetic	Alterative.	⅙ gr. - ½ gr.
——————	An Emetic.	1 gr. - 3 grs.
Terra japonica	Astringent.	20 grs. - 40 grs.
Tobacco, an infusion of, 1 drachm to a pint of water; should be administered by table-spoonsful; powerfully diuretic; or in form of clyster.		
Tin, powder of	Anthelmintic.	20 grs. - 1 dr.
Turmeric		20 grs. - 1 dr.
Turpentine, spirit of	Diuretic.	10 drps. - 30 drps.
——————, Venice	*The same.*	20 grs. - 1 dr.
Tincture of aloes	Purgative.	½ oz. - 1 oz.
——————, compound	*The same.*	½ dr. - 2 drs.
—— of asafœtida	Antispasmodic.	½ dr. - 2 drs.
—— of Benzoin, compound	Vulnerary.	10 drps. - 40 drps.
—— of cantharides	Diuretic.	10 drps. - 40 drps.
—— of cardamoms	Carminative.	1 dr. - ½ oz.
—— of castor		½ dr. - 1½ dr.
—— of catechu	Astringent.	1 dr. - 2 drs.
—— of Peruvian bark	Tonic.	1 dr. - ½ oz.
—— of iron, muriated	Tonic.	10 drps. - 60 drps.
—— of Calumbo	Tonic.	1 dr. - 3 drs.
—— of gentian, compound	Tonic.	1 dr. - 3 drs.
—— of guiacum volatile	Diaphoretic.	1 dr. - 3 drs.
—— of black hellebore	Emenagogue.	1 scr. - 1 dr.

Names.	*Properties.*	*Doses.*
Tincture of jalap	Purgative.	1 dr. to ½ oz.
——— of myrrh	Emenagogue.	1 scr. - 1 dr.
——— of opium	Narcotic.	10 drps. - 40 drps.
——— camphorated, or paregoric elixir	Anodyne and antispasmodic	1 dr. - 3 drs.
——— of rhubarb	Purgative, Stomachic.	½ oz. - 2 oz.
——— of senna	Cathartic, Stomachic.	½ drs. - 1 oz.
——— of snake-root	Diaphoretic, &c.	1 dr. - 2 drs.
——— of valerian	Antispasmodic.	1 dr. - 3 drs.
——— volatile	The same and stimulant.	½ dr. - 2 drs.
Tormentil, powder of	Astringent.	10 grs. - 1 dr.
Tumeric		1 scr. - 1 dr.
Turpentine, Venice	Diuretic and cathartic.	1 scr. - 1 dr.
Tutty, levigated	Used externally in ointments and cerates.	
Uva ursi, in powder	Lithontriptic.	20 grs. - 1 dr.
Valerian, wild, powder of	Stimulant, Antispasmodic.	20 grs. - 2 drs.
Vinegar, distilled	Refrigerant, Antiseptic.	2 drs. - 1 oz.
——— of squills	Diuretic.	10 drps. - 50 drps
———,	As an emetic.	½ oz. - 1 oz.
Verdigris	Violently emetic.	¼ gr. - 2 grs.
Vitriol, white	As a Tonic.	2 grs. - 5 grs.
———,	As a quickly operating emetic,	20 grs. - 1 dr.
———, blue	Emetic.	1 gr. - 3 grs.
Watercress, expressed juice of	Antiscorbutic.	½ oz. - 2 oz.
——— trefoil		½ dr. - 1 dr.
Waters, any of the simple distilled	Used as vehicles.	½ oz. - 4 oz.
Wax, white	Demulcent and emollient.	20 grs. - 1 dr.
——, yellow		
Wormwood, expressed juice	Vermifuge, Tonic.	½ oz. - 2 oz.
White lead	Astringent.	¼ gr. - 5 grs.
Wild cucumber	Cathartic, Hydragogue.	½ gr. to grs. ij. of the extract.
Wine, aloetic	Purgative.	½ oz. - 1 oz.
——, antimonial	Emetic.	20 drps. - 2 drs.
——, ipecacuanha	Emetic.	1 dr. - ½ oz.
——, rhubarb	Purgative.	½ oz. - 2 oz.
Zedoary	Stomachic.	10 grs. - 40 grs.
Zinc, flowers of	Tonic. Antispasmodic.	3 grs. - 10 grs.

DOMESTIC PHARMACOPŒIA.

MEDICINAL PREPARATIONS.

Balsams.

The subject of this section is not the natural balsams, but certain compositions, which, from their being supposed to possess the balsamic qualities, generally go by that name.

This class of medicines was formerly very numerous, and held in great esteem. Modern practice, however, has justly reduced it to a very narrow compass.

Anodyne Balsam.—Take of white Spanish soap, one ounce; opium, unprepared, two drachms; rectified spirit of wine, nine ounces. Digest them together in a gentle heat for three days; then strain off the liquor, and add to it three drachms of camphor.

This balsam is intended to ease pain. It is of service in violent strains and rheumatic complaints, when not attended with inflammation. It must be rubbed with a warm hand on the part affected; or a linen rag moistened with it may be applied to the part, and renewed every third or fourth hour, till the pain abates. If the opium is left out, this will be the *Saponaceous Balsam.*

Locatelli's Balsam.—Take of olive oil, one pint; Strasburg turpentine and yellow wax, of each half a pound; red saunders, six drachms. Melt the wax with some part of the oil, over a gentle fire; then adding the remaining part of the oil and the turpentine; afterwards mix in the saunders, previously reduced to a powder, and keep them stirring together till the balsam is cold.

This balsam is recommended in erosions of the intestines, the dysentery, hæmorrhages, internal bruises, and in some complaints of the breast. Outwardly it is used for healing and cleansing wounds and ulcers. The dose when taken internally, is from two scruples to two drachms.

The vulnerary Balsam. (*Tincture of Benjamin.*)—Take of benzoin, powdered, three ounces; balsam of Peru, two ounces; hepatic aloes, in powder, half an ounce; rectified spirits of wine, two pints. Digest them in a gentle heat for three days, and then strain the balsam.

This balsam, or rather tincture, is applied externally to heal recent wounds and bruises. It is likewise employed internally to remove coughs, asthmas, and other complaints of the breast. It is said to ease the colic, cleanse the kidneys, and to heal internal ulcers, &c. The dose is from twenty to sixty drops.

This, though a medicine of some value, does not deserve the extravagant encomiums which have been bestowed on it. It has been celebrated under the different names of *The Commander's Balsam, Persian Balsam, Balsam of Berne, Wade's Balsam, Friar's Balsam, Jesuit's Drops, Turlington's Drops,* &c.

Boluses.

As boluses are intended for immediate use, volatile salts, and other ingredients improper for being kept, are admitted into their composition. They are generally composed of powders, with a proper quantity of syrup, conserve, or mucilage. The lighter powders are commonly made up with syrup, and the more ponderous, as mercury, &c., with conserve; but those of the lighter kind would be more conveniently made up with mucilage, as it increases their bulk less than the other additions, and likewise occasions the medicine to pass down more easily.

Astringent Bolus.—Take of alum, in powder, fifteen grains; gum kino, five grains; syrup, a sufficient quantity to make a bolus.

In an excessive flow of the *menses*, and other violent discharges of blood, proceeding from relaxation, this bolus may be given every four or five hours, till the discharge abates.

Diaphoretic Bolus.—Take of gum guaiacum, in powder, ten grains; flowers of sulphur and cream of tartar, of each one scruple; simple syrup, a sufficient quantity.

In rheumatic complaints, and disorders of the skin, this bolus may be taken twice a-day. It will also be of service in the inflammatory quinsey.

Mercurial Bolus.—Take of calomel, six grains; conserve of roses, half a drachm. Make a bolus.

Where mercury is necessary, this bolus may be taken twice or thrice a-week. It may be taken over-night; and if it does not operate, a few grains of jalap, or half an ounce of Epsom salts, will be proper next day to carry it off.

Bolus of Rhubarb and Mercury.—Take of the best rhubarb, in powder, from a scruple to half a drachm; of calomel, from four to six grains; simple syrup, a sufficient quantity to make a bolus.

This is a proper purge in hypochondriac constitutions; but its principal intention is to expel worms. Where a stronger purge is necessary, jalap may be used instead of the rhubarb.

Pectoral Bolus.—Take of spermaceti, a scruple; gum ammoniac, ten grains; salt of hartshorn, six grains; simple syrup, as much as will make them into a bolus.

This bolus is given in colds and coughs of long standing, asthmas, and beginning consumptions of the lungs. It is generally proper to bleed the patient before he begins to use it.

Purging Bolus.—Take of jalap, in powder, a scruple; cream of tartar, two scruples. Let them be rubbed together, and formed into a bolus, with simple syrup.

Where a mild purge is wanted, this will answer the purpose very well. If a stronger dose is necessary, the jalap may be increased to half a drachm or upwards.

Cataplasms and Sinapisms.

Cataplasms possess few or no virtues superior to a poultice, which may be so made, as, in most cases, to supply their place. They are chiefly intended either to act as discutients, or to promote suppuration; and as they may be of service in some cases, we shall give a specimen of each kind.

Discutient Cataplasm.—Take of barleymeal, six ounces; fresh hemlock leaves, bruised, two ounces; vinegar, a sufficient quantity. Boil the meal and hemlock in the vinegar for a little time, and then add two drachms of the sugar of lead.

Ripening Cataplasm.—Take of white lily-root, four ounces; fat figs and raw onions, bruised, of each one ounce; yellow basilicum ointment, two ounces; gum galbanum, half an ounce; linseed-meal, as much as necessary. Boil the roots along with the figs in a sufficient quantity of water; then bruise and add to them the other ingredients, so as to form the whole into a soft cataplasm. The galbanum must be previously dissolved with the yolk of an egg.

Where it is necessary to promote suppuration, this cataplasm may be used by those who choose to be at the trouble and expense of making it. For my part, I have never found any application more proper for this purpose than a poultice of bread and milk, with a sufficient quantity of either boiled or raw onion in it, and softened with oil or fresh butter.

Sinapisms.—Sinapisms are employed to recal the blood and spirits to a part, as in the palsy and atrophy. They are also of service in deep-seated pains, as the sciatica, &c. When the gout seizes the head or the stomach, they are applied to the feet to bring the disorder to those parts. They are likewise applied to the patient's soles in the low state of fevers. They should not be suffered to lie on, however, till they have raised blisters, but till the parts become red, and will continue so when pressed with the finger.

The sinapism is only a poultice made with vinegar instead of milk, and rendered warm and stimulating by the addition of mustard, horse-radish, or garlic. The common sinapism is made by taking crumb of bread and mustard-seed in powder, of each equal quantities; strong vinegar, as much as is sufficient, and mixing them so as to make a poultice. When sinapisms of a more stimulating nature are wanted, a little bruised garlic may be added to the above.

Clysters.

This class of medicines is of more importance than is generally imagined. Clysters serve not only to evacuate the contents of the belly, but also to convey very active medicines into the system. Opium, for example, may be administered in this way when it will not sit upon the stomach, and also in larger doses than at any time it can be taken by the mouth. The Peruvian bark may likewise be, with good effect, administered in form of clyster to persons who cannot take it by the mouth. A simple clyster can seldom do hurt, and there are many cases where it may do much good. A clyster even of warm water, by serving as a fomentation to the parts, may be of considerable service in inflammations of the bladder, and the lower intestines, &c.

Some substances, as the smoke of tobacco, may be thrown into the bowels in this

way, which cannot be done by any other means whatever. This may be easily effected by means of a pair of hand-bellows, with an apparatus fitted to them for that purpose.

The use of clysters is not merely confined to medicines. Aliment may also be conveyed in his way. Persons unable to swallow, have been, for a considerable time, supported by clysters.

Emollient Clyster.—Take of linseed-tea and new milk, each six ounces. Mix them.

If fifty or sixty drops of laudanum be added to this, it will supply the place of the *Anodyne Clyster.*

Laxative Clyster.—Take of milk and water, each six ounces; sweet oil or fresh butter, and brown sugar, of each two ounces. Mix them.

If an ounce of Glauber's salt, or two table-spoonsful of common salt, be added to this, it will be the *Purging Clyster.*

Carminative Clyster.—Take of camomile flowers, an ounce; anise-seeds, half an ounce. Boil in a pint and a half of water to one pint.

In hysteric and hypochondriac complaints, this may be administered instead of the *Fœtid Clyster,* the smell of which is so disagreeable to most patients.

Oily Clyster.—To four ounces of the infusion of camomile flowers, add an equal quantity of Florence oil.

This clyster is beneficial in bringing off the small worms lodged in the lower parts of the alimentary canal. When given to children, the quantity must be proportionably lessened.

Starch Clyster.—Take jelly of starch, four ounces; linseed oil, half an ounce. Liquefy the jelly over a gentle fire, and then mix in the oil.

In the dysentery or bloody flux, this clyster may be administered after every loose stool, to heal the ulcerated intestines, and blunt the sharpness of corroding humours. Forty or fifty drops of laudanum may be occasionally added; in which case, it will generally supply the place of the *Astringent Clyster.*

Turpentine Clyster.—Take of common decoction, ten ounces; Venice turpentine, dissolved with the yolk of an egg, half an ounce; Florence oil, one ounce. Mix them.

This diuretic clyster is proper in obstructions of the urinary passages, and in colicky complaints, proceeding from gravel.

Vinegar Clyster.—This clyster is made by mixing three ounces of vinegar with five of water-gruel. It answers all the purposes of a common clyster, with the peculiar advantage of being proper either in inflammatory or putrid disorders, especially in the latter.

COLLYRIA, OR EYE-WATERS.

EYE-WATERS have been multiplied without number, almost every person pretending to be possessed of some secret preparation for the cure of sore eyes. I have examined many of them, and find that they are pretty much alike, the basis of most of them being either alum, vitriol, or lead. Their effects evidently are to brace and restore the tone of the parts: hence they are principally of service in slight inflammations; and in that relaxed state of the parts which is induced by obstinate ones.

Camphor is commonly added to these compositions; but as it seldom incorporates properly with the water, it can be of little use. Boles and other earthy substances, as they do not dissolve in water, are likewise unfit for this purpose.

Collyrium of Alum.—Take of alum half a drachm; agitate it well together with the white of an egg.

This is the Collyrium of Riverius. It is used in inflammation of the eyes, to allay heat, and restrain the flux of humours. It must be spread upon linen, and applied to the eyes; but should not be kept on above three or four hours at a time.

Vitriolic Collyrium.—Take of white vitriol, half a drachm; rose-water, six ounces. Dissolve the vitriol in the water, and filter the liquor.

This, though simple, is perhaps equal in virtue to most of the celebrated collyria. It is an useful application in weak, watery, and inflamed eyes. Though the slighter inflammations will generally yield to it, yet in those of a more obstinate nature the assistance of bleeding and blistering will often be necessary.

When a strong astringent is judged proper, a double or triple quantity of the vitriol may be used. I have seen a solution of four times the strength of the above used with manifest advantage.

Collyrium of Lead.—Take sugar of lead, and crude sal ammoniac, of each four

grains. Dissolve them in eight ounces of common water: to which forty or fifty drops of laudanum may be occasionally added.

Those who choose, may substitute, instead of this, the collyrium of lead, recommended by Goulard; which is made by putting twenty-five drops of his *extract of lead* to eight ounces of water, and adding a tea-spoonful of brandy. Indeed, common water and brandy, without any other addition, will in many cases answer very well as a collyrium. An ounce of the latter may be added to five or six ounces of the former; and the eyes, if weak, bathed with it night and morning. For a rheum in the eyes, great benefit has been found by washing them frequently with rose-water. Many experience the like good effect from anointing the eye-lids with Smellom's salve.

Confections.

Confections, containing above sixty ingredients, are still to be found in some of the most reformed dispensatories. As most of their intentions, however, may be more certainly, and as effectually answered by a few glasses of wine or grains of opium, we shall pass over this class of medicines very slightly.

Japonic Confection, or Confection of Catechu.—Take of Japan earth, three ounces; tormentil root, nutmeg, olibanum, of each two ounces; opium dissolved in a sufficient quantity of Lisbon wine, a drachm and a half; simple syrup and conserve of roses, of each fourteen ounces. Mix, and make them into an electuary. It supplies the place of the Diascordium. The dose is from a scruple to a drachm.

Conserves and Preserves.

These preparations possess very few medical properties, and may rather be classed among sweetmeats than medicines. They are sometimes, however, of use, for reducing into boluses or pills some of the more ponderous powders, as the preparations of iron, mercury, and tin.

Conserves are compositions of fresh vegetables and sugar, beaten together into an uniform mass. In making these preparations, the leaves of vegetables must be freed from their stalks, the flowers from their cups, and the yellow part of orange-peel taken off with a rasp. They are then to be pounded in a marble mortar, with a wooden pestle, into a smooth mass; after which, thrice their weight of fine sugar is commonly added by degrees, and the beating continued till they are uniformly mixed; but the conserve will be better if only twice its weight of sugar be added.

Those who prepare large quantities of conserve generally reduce the vegetables to a pulp by the means of a mill, and afterwards beat them up with sugar.

Conserve of Red Roses.—Take a pound of red rose-buds, cleared of their heels; beat them well in a mortar, and adding by degrees two pounds of double-refined sugar, in powder, make a conserve. After the same manner are prepared the conserves of orange-peel, rosemary-flowers, sea-wormwood, the leaves of wood-sorrel, &c.

The conserve of roses is one of the most agreeable and useful preparations belonging to this class. A drachm or two of it dissolved in warm milk, is ordered to be given as a gentle restringent in weakness of the stomach, and likewise phthisical coughs and spitting of blood. To have any considerable effects, however, it must be taken in large quantities.

Conserve of Sloes.—This may be made by boiling sloes gently in water, being careful to take them out before they burst; afterwards expressing the juice, and beating it up with three times its weight of fine sugar.

In relaxations of the *uvula* and glands of the throat, this makes an excellent gargle, and may be used at discretion.

Preserves are made by steeping or boiling fresh vegetables first in water, and afterwards in syrup, or a solution of sugar. The subject is either preserved moist in the syrup, or taken out and dried, that the sugar may candy upon it. The last is the most useful method.

Candied Orange-Peel.—Soak Seville orange-peel in several waters, till it loses its bitterness; then boil it in a solution of double-refined sugar in water, till it becomes tender and transparent.

Candied lemon-peel is prepared in the same manner.

Decoctions.

Water readily extracts the gummy and saline parts of vegetables; and though its action is chiefly confined to these, yet the resinous and oily being intimately blended with the gummy and saline, are in great part taken up along with them. Hence watery decoctions and infusions of vegetables constitute a large, and not unuseful, class of medicines. Although most vegetables yield their virtues to water, as well by infusion as decoction, yet the latter is often necessary, as it saves time, and does in a few minutes what the other would require hours, and sometimes days, to effect.

The medicines of this class are all intended for immediate use.

Decoction of Mallows.—Take of the roots of marsh-mallows, moderately dried, three ounces; raisins of the sun, one ounce; water, three pints.

Boil the ingredients in the water till one-third of it is consumed; afterwards strain the decoction, and let it stand for some time to settle. If the roots be thoroughly dried, they must be boiled till one-half of the water be consumed.

In coughs, and sharp defluxions upon the lungs, this decoction may be used for ordinary drink.

The Common Decoction.—Take of camomile-flowers, one ounce; elder-flowers, and sweet fennel-seeds, of each half an ounce; water, two quarts. Boil them for a little while, and then strain the decoction, or infuse the ingredients for some hours in boiling water.

This decoction is chiefly intended as the basis of clysters, to which other ingredients may be occasionally added. It will likewise serve as a common fomentation, spirit of wine or other things being added, in such quantity as the case may require.

Decoction of Logwood.—Boil three ounces of the shavings or chips of logwood, in four pints of water, till one half the liquor is wasted. Two or three ounces of simple cinnamon-water may be added to this decoction.

In fluxes of the belly, where the stronger astringents are improper, a tea-cupful of this decoction may be taken with advantage three or four times a-day.

Decoction of the Bark.—Boil an ounce of the Peruvian bark, grossly powdered, in a pint and a half of water to one pint; then strain the decoction. If a tea-spoonful of the weak spirit of vitriol be added to this medicine, it will render it both more agreeable and efficacious.

Compound Decoction of the Bark.—Take of Peruvian bark and Virginian snake-root, grossly powdered, each three drachms. Boil them in a pint of water to one-half. To the strained liquor add an ounce and a half of any aromatic water.

Sir John Pringle recommends this as a proper medicine towards the decline of malignant fevers, when the pulse is low, the voice weak, and the head affected with a stupor, but with little delirium. The dose is four table-spoonsful every fourth or sixth hour.

Decoction of Sarsaparilla.—Take of fresh sarsaparilla-root, sliced and bruised, two ounces; shavings of guaiacum-wood, one ounce. Boil over a slow fire, in three quarts of water, to one; adding towards the end, half an ounce of sassafras-wood, and three drachms of liquorice. Strain the decoction.

This may either be employed as an assistant to a course of mercurial alteratives, or taken after the mercury has been used for some time. It strengthens the stomach, and restores flesh and vigour to habits emaciated by the venereal disease. It may also be taken in the rheumatism, and cutaneous disorders, proceeding from foulness of the blood and juices. For all these intentions it is greatly preferable to the *Decoction of Wood*. Dose: from a pint and a half to two quarts in the day.

The following decoction is said to be similar to that used by KENNEDY, *in the cure of the venereal disease, and may supply the place of Lisbon diet drink:*—

Take of sarsaparilla, three ounces; liquorice and mezereon-root, of each half an ounce; shavings of guaiacum and sassafras-wood, of each one ounce; crude antimony, powdered, an ounce and a half. Infuse these ingredients in eight pints of boiling water for twenty-four hours, then boil them till one half the water is consumed; afterwards strain the decoction. To be used in the same manner as the preceding.

Decoction of Seneka.—Take of Seneka or rattle-snake root, one ounce; water, a pint and a half. Boil to one pint, and strain.

This is recommended in the pleurisy, dropsy, rheumatism, and some obstinate disorders of the skin. The dose is two ounces, three or four times a-day or oftener, if the stomach will bear it.

White Decoction.—Take of the purest chalk, in powder, two ounces; gum arabic, half an ounce; water, three pints. Boil to one quart, and strain the decoction.

Proper drink in acute diseases, attended with, or inclining to, a looseness, and where acidities abound in the stomach or bowels. It is peculiarly proper for children when afflicted with sourness of the stomach, and for persons who are subject to the heart-burn. It may be sweetened with sugar, as it is used, and two or three ounces of simple cinnamon-water added to it.

An ounce of powdered chalk, mixed with two pints of water, will occasionally supply the place of this decoction, and also of the chalk julep.

DRAUGHTS.

THIS is a proper form for exhibiting such medicines as are intended to operate immediately, and which do not need to be frequently repeated, as purges, vomits, and

a few others, which are to be taken at one dose. Where a medicine requires to be used for any length of time, it is better to make up a large quantity of it at once, which saves both trouble and expense.

Anodyne Draught.—Take of liquid laudanum, twenty-five drops; simple cinnamon-water, an ounce; common syrup, two drachms. Mix them.

In excessive pain, where bleeding is not necessary, and in great restlessness, this composing draught may be taken and repeated occasionally.

Diuretic Draught.—Take of the diuretic salt, two scruples; syrup of poppies, two drachms; simple cinnamon-water, and common water, of each an ounce. In an obstruction or deficiency of urine.

Purging Draught.—Take of manna, an ounce; soluble tartar, or Rochel salt, from three to four drachms. Dissolve in three ounces of boiling water; to which add Jamaica pepper-water, half an ounce.

As manna sometimes will not sit upon the stomach, an ounce or ten drachms of the bitter purging salts, dissolved in four ounces of water, may be taken instead of the above.

Those who cannot take salts, may use the following draught:—Take of jalap in powder, a scruple; common water, an ounce; aromatic tincture, six drachms. Rub the jalap with twice its weight of sugar, and add to it the other ingredients.

Sweating Draught.—Take spirit of Mindererus, *(acetated solution of ammonia)* two ounces; salt of hartshorn, five grains; simple cinnamon-water, and syrup of poppies, of each half an ounce. Make them into a draught.

In recent colds and rheumatic complaints, this draught is of service. To promote its effects, however, the patient ought to drink freely of warm water-gruel, or of some other weak diluting liquor.

Vomiting Draughts.—Take of ipecacuanha, in powder, a scruple; water, an ounce; simple syrup, a drachm. Mix them. Persons who require a stronger vomit may add to this half a grain, or a grain, of emetic tartar.

Those who do not choose the powder, may take ten drachms of the ipecacuanha wine; or half an ounce of the wine, and an equal quantity of the syrup of squills.

ELECTUARIES.

ELECTUARIES are generally composed of the lighter powders mixed with syrup, honey, conserve, or mucilage, into such a consistence, that the powders may neither separate by keeping, nor the mass prove too stiff for swallowing. They receive chiefly the milder alterative medicines, and such as are not ungrateful to the palate.

Astringent electuaries, and such as have pulps of fruit in them, should be prepared only in small quantities; as astringent medicines lose their virtues by being kept in this form, and the pulps of fruits are apt to ferment.

For the extraction of pulps it will be necessary to boil unripe fruits, and ripe ones, if they are dried, in a small quantity of water, till they become soft. The pulp is then to be pressed out through a strong hair sieve, or thin cloth, and afterwards boiled to a due consistence, in an earthen vessel, over a gentle fire, taking care to prevent the matter from burning by continually stirring it. The pulps of fruit that are both ripe and fresh may be pressed out without any previous boiling.

Lenitive Electuary.—Take of senna, in fine powder, eight ounces; coriander-seed, also in powder, four ounces; pulp of tamarinds and of French prunes, each a pound. Mix the pulps and powders together, and with a sufficient quantity of simple syrup, reduce the whole into an electuary.

A tea-spoonful of this electuary, taken two or three times a-day, generally proves an agreeable laxative. It likewise serves as a convenient vehicle for exhibiting more active medicines, as jalap, scammony, and such like.

This may supply the place of the electuary of *Cassia*.

Electuary for the Dysentery.—Take of the Japonic confection, two ounces; Locatelli's balsam, one ounce; rhubarb in powder, half an ounce; syrup of marshmallows, enough to make an electuary.

About the bulk of a nutmeg should be taken twice or thrice a-day, as the symptoms and constitution may require.

It is often dangerous in dysenteries to give opiates and astringents, without interposing purgatives. The purgative is here joined with the above ingredients, which renders this a very safe and useful medicine for the purposes expressed in the title.

Electuary for the Epilepsy.—Take of Peruvian bark, in powder, an ounce; of powdered tin, and wild valerian root, each half an ounce; simple syrup, enough to make an electuary.

Dr. Mead directs a drachm of an electuary similar to this to be taken evening and morning, in the epilepsy, for the space of three months. It will be proper, however, to discontinue the use of it for a few days every now and then. I have added the powdered tin, because the epilepsy often proceeds from worms.

Electuary for obstructed Menses.—Take of conserve of orange-peel, one ounce; steel-filings half an ounce; tartarized iron, two scruples; aromatic powder and powdered rhubarb, of each half a drachm; syrup, a sufficient quantity.

The bulk of a nutmeg of this taken every morning fasting, will be found an excellent remedy in obstructions of the menstrual evacuations.

Electuary of the Bark.—Take of Peruvian bark, in powder, three ounces; cascarilla, half an ounce; syrup of ginger, enough to make an electuary.

In the cure of obstinate intermitting fevers, the bark is assisted by the cascarilla. In hectic habits, however, it will be better to leave out the cascarilla, and put three drachms of crude sal ammoniac in its stead.

Electuary for the Piles.—Take flowers of sulphur, one ounce; cream of tartar, half an ounce; treacle, a sufficient quantity to form an electuary.

A tea-spoonful of this may be taken three or four times a-day.

Electuary for the Palsy.—Take of powdered mustard-seed, and conserve of roses each an ounce; syrup of ginger, enough to make an electuary.

A tea-spoonful of this may be taken three or four times a-day.

Electuary for the Rheumatism.—Take of conserve of roses, two ounces; cinnabar of antimony, levigated, an ounce and a half; gum guaiacum, in powder, an ounce; syrup of ginger, a sufficient quantity to make an electuary.

In obstinate rheumatisms, which are not accompanied with a fever, a tea-spoonful of this electuary may be taken twice a-day with considerable advantage.

Emulsions.

Emulsions, beside their use as medicines, are also proper vehicles for certain substances, which could not otherwise be conveniently taken in a liquid form. Thus camphor, triturated with almonds, readily unites with water into an emulsion. Pure oils, balsams, resins, and other similar substances, are likewise rendered miscible with water by the intervention of mucilages.

Common Emulsion.—Take of sweet almonds, an ounce; bitter almonds, a drachm; water, two pints.

Let the almonds be blanched, and beat up in a marble mortar; adding the water by little and little, so as to make an emulsion; afterwards let it be strained.

Arabic Emulsion.—This is made in the same manner as the above, adding to the almonds, while beating, two ounces and a half of the mucilage of gum arabic.

Where soft cooling liquors are necessary, these emulsions may be used as ordinary drink.

Camphorated Emulsion.—Take of Camphor, half a drachm; sweet almonds, half a dozen; white sugar, half an ounce; mint water, eight ounces. Grind the camphor and almonds well together in a stone mortar, and add by degrees the mint water; then strain the liquor, and dissolve in it the sugar.

In fevers, and other disorders which require the use of camphor, a table-spoonful of this emulsion may be taken every two or three hours.

Emulsion of Gum Ammoniac.—Take of gum ammoniac, two drachms; water, eight ounces. Grind the gum with the water poured upon it by little and little, till it is dissolved.

This emulsion is used for attenuating tough, viscid phlegm, and promoting expectoration. In obstinate coughs, two ounces of the syrup of poppies may be added to it. The dose is two table-spoonsful three or four times a-day.

Oily Emulsion.—Take of soft water, six ounces; volatile aromatic spirit, two drachms; Florence oil, an ounce; shake them well together, and add, of simple syrup, half an ounce.

In recent colds and coughs, this emulsion is generally of service; but if the cough proves obstinate, it will succeed better when made with the paregoric elixir of the Edinburgh Dispensatory, instead of the volatile aromatic spirit. A table-spoonful of it may be taken every two or three hours.

Extracts.

Extracts are prepared by boiling the subject in water, and evaporating the strained

decoction to a due consistence. By this process some of the more active parts of plants are freed from the useless, indissoluble earthy matter, which makes the larger share of their bulk. Water, however, is not the only menstruum used in the preparation of extracts; sometimes it is joined with spirits, and at other times rectified spirit alone is employed for that purpose.

Extracts are prepared from a variety of different drugs, as the bark, gentian, jalap, &c.; but, as they require a troublesome and tedious operation, it will be more convenient for a private practitioner to purchase what he needs of them from a professed druggist, than to prepare them himself. Such of them as are generally used are inserted in our list of such drugs and medicines as are to be kept for private practice.

Fomentations.

Fomentations are generally intended either to ease pain, by taking off tension and spasm; or to brace and restore the tone and vigour of those parts to which they are applied. The first of these intentions may generally be answered by warm water, and the second by cold. Certain substances, however, are usually added to water with a view to heighten its effects, as anodynes, aromatics, astringents, &c. We shall therefore subjoin a few of the most useful medicated fomentations, that people may have it in their power to make use of them as they choose.

Anodyne Fomentation.—Take of white poppy-heads, two ounces; elder flowers, half an ounce; water, three pints. Boil till one pint is evaporated, and strain out the liquor.

This fomentation is used for relieving acute pain.

Aromatic Fomentation.—Take of Jamaica pepper, half an ounce; red wine, a pint. Boil them a little, and then strain the liquor.

This is intended, not only as a topical application for external complaints, but also for relieving the internal parts. Pains of the bowels, which accompany dysenteries and diarrhœas, flatulent colics, uneasiness of the stomach, and retchings to vomit, are frequently abated by fomenting the abdomen and region of the stomach with the warm liquor.

Common Fomentation.—Take tops of wormwood and camomile flowers dried, of each two ounces; water, two quarts. After a slight boiling, pour off the liquor.

Brandy or spirit of wine may be added, in such quantity as the particular circumstances of the case shall require; but these are not always necessary.

Emollient Fomentation.—The same as the common decoction.

Strengthening Fomentation.—Take of oak bark, one ounce; granate peel, half an ounce; alum, two drachms; smith's forge-water, three pints. Boil the water with the bark and peel to the consumption of one-third; then strain the remaining decoction, and dissolve in it the alum.

This astringent liquor is employed as an external fomentation to weak parts; it may also be used internally.

Gargles.

However trifling this class of medicines may appear, they are by no means without their use. They seldom, indeed, cure diseases, but they often alleviate very disagreeable symptoms; as parchedness of the mouth, foulness of the tongue and fauces, &c.; they are peculiarly useful in fevers and sore throats. In the latter, a gargle will sometimes remove the disorder; and in the former, few things are more refreshing or agreeable to the patient, than to have his mouth frequently washed with some soft detergent gargle. One advantage of these medicines is, that they are easily prepared. A little barley-water and honey may be had any where; and if to these be added as much vinegar as will give them an agreeable sharpness, they will make a very useful gargle for softening and cleansing the mouth.

Attenuating Gargle.—Take of water, six ounces; honey, one ounce; nitre, a drachm and a half. Mix them.

This cooling gargle may be used either in the inflammatory quinsey, or in fevers, for cleaning the tongue and fauces.

Common Gargle.—Take of rose-water, six ounces; syrup of clove July-flowers, half an ounce; spirit of vitriol, a sufficient quantity to give it an agreeable sharpness. Mix them.

This gargle, besides cleansing the tongue and fauces, acts as a gentle repellent, and will sometimes remove a slight quinsey.

Detergent Gargle.—Take of the emollient gargle, a pint; tincture of myrrh, an ounce; honey, two ounces. Mix them.

When exulcerations require to be cleansed, or the excretion of tough viscid saliva promoted, this gargle will be of service.

Emollient Gargle.—Take an ounce of marshmallow roots, and two or three figs; boil them in a quart of water till near one-half of it be consumed; then strain out the liquor.

If an ounce of honey, and half an ounce of spirit of sal ammoniac, be added to the above, it will then be an exceedingly good *attenuating gargle.*

This gargle is beneficial in fevers, where the tongue and fauces are rough and parched, to soften these parts, and promote the discharge of saliva.

The learned and accurate Sir John Pringle observes, that in the inflammatory quinsey, or strangulation of the fauces, little benefit arises from the common gargles; that such as are of an acid nature do more harm than good, by contracting the emunctories of the saliva and mucus, and thickening those humours; that a decoction of figs in milk and water has a contrary effect, especially if some sal ammoniac be added; by which the saliva is made thinner, and the glands are brought to secrete more freely; a circumstance always conducive to the cure.

INFUSIONS.

VEGETABLES yield nearly the same properties to water by infusion as by decoction; and though they may require a longer time to give out their virtues in this way, yet it has several advantages over the other; since boiling is found to dissipate the finer parts of many bitter and aromatic substances, without more fully extracting their medicinal principles. Even from those vegetables which are weak in virtue, rich infusions may be obtained, by returning the liquor upon fresh quantities of the subject, the water loading itself more and more with the active parts; and these loaded infusions are applicable to valuable purposes in medicine, as they contain in a small compass the finer, more subtile, and active principles of vegetables, in a form readily miscible with the fluids of the human body.

Bitter Infusion.—Take tops of the lesser centaury and camomile flowers, of each half an ounce; yellow rind of lemon and orange-peel, carefully freed from the inner white part, of each two drachms. Cut them in small pieces, and infuse them in a quart of boiling water.

For indigestion, weakness of the stomach, or want of appetite, a tea-cupful of this infusion may be taken twice or thrice a-day.

Infusion of the Bark.—To an ounce of the bark, in powder, add four or five tablespoonsful of brandy, and a pint of boiling water. Let them infuse for two or three days.

This is one of the best preparations of the bark for weak stomachs. In disorders where the corroborating virtues of that medicine are required, a tea-cupful of it may be taken two or three times a-day.

Infusion of Carduus Benedictus (Blessed Thistle.)—Infuse an ounce of the dried leaves of carduus benedictus, or blessed thistle, in a pint of common water, for six hours, without heat; then filter the liquor through paper.

This light infusion may be given, with great benefit, in weakness of the stomach, where the common bitters do not agree. It may be flavoured at pleasure with cinnamon, or other aromatic materials.

Infusion of Linseed.—Take of linseed, two spoonsful; liquorice-root, sliced, half an ounce; boiling water, three pints. Let them stand to infuse by the fire for some hours, and then strain off the liquor.

If an ounce of the leaves of colt's-foot be added to these ingredients, it will then be the *Pectoral Infusion.* Both these are emollient mucilaginous liquors, and may be taken with advantage as ordinary drink in difficulty of making water; and in coughs and other complaints of the breast.

Infusion of Roses.—Take of red roses, dried, half an ounce; boiling water, a quart; vitriolic acid, commonly called oil of vitriol, half a drachm; loaf sugar, an ounce.

Infuse the roses in the water for four hours, in an unglazed earthen vessel; afterwards pour in the acid, and, having strained the liquor, add to it the sugar.

In an excessive flow of the *menses*, vomiting of blood, and other hæmorrhages, a tea-cupful of this gently astringent infusion may be taken every three or four hours. It likewise makes an exceedingly good gargle. As the quantity of roses used here can have little or no effect, an equally valuable medicine may be prepared by mixing the acid and water without infusion.

Infusion of Tamarinds and Senna.—Take of tamarinds, one ounce; senna, and crystals of tartar, each two drachms. Let these ingredients be infused four or five hours in a pint of boiling water; afterwards let the liquor be strained, and an ounce or

two of the aromatic tincture added to it. Persons who are easily purged may leave out either the tamarinds or the crystals of tartar.

This is an agreeable cooling purge, and supplies the place of the *Decoction of Tamarinds and Senna*. A tea-cupful may be given every half hour till it operates.

Spanish Infusion.—Take of Spanish juice, cut into small pieces, an ounce; salt of tartar, three drachms. Infuse in a quart of boiling water for a night. To the strained liquor add an ounce and a half of the syrup of poppies.

In recent colds, coughs, and obstructions of the breast, a tea-cupful of this infusion may be taken with advantage three or four times a-day.

Infusion for the Palsy.—Take of horse-radish root shaved, mustard-seed bruised, each four ounces; outer rind of orange-peel, one ounce. Infuse them in two quarts of boiling water, in a close vessel, for twenty-four hours.

In paralytic complaints, a tea-cupful of this warm stimulating medicine may be taken three or four times a-day. It excites the action of the solids, proves diuretic, and, if the patient be kept warm, promotes perspiration.

If two or three ounces of the dried leaves of marsh-trefoil be used instead of the mustard, it will make the *Antiscorbutic Infusion*.

JULEPS.

THE basis of juleps or draughts is generally common water, or some simple distilled water, with one-third or one-fourth its quantity of distilled spirituous water, and as much sugar or syrup as is sufficient to render the mixture agreeable. This is sharpened with vegetable or mineral acids, or impregnated with other medicines suitable to the intention

Camphorated Julep.—Take of camphor, one drachm; rectified spirit of wine, ten drops; double-refined sugar, half an ounce; boiling distilled water, one pint. Rub the camphor first with the spirit of wine, then with the sugar; lastly, add the water by degrees, and strain the liquor.

In hysterical and other complaints where camphor is proper, this julep may be taken in the dose of a spoonful or two as often as the stomach will bear it.

Cordial Julep.—Take of simple cinnamon-water, four ounces; Jamaica pepper-water, two ounces; volatile aromatic spirit, and compound spirit of lavender, of each two drachms; syrup of orange-peel, an ounce. Mix them. Dose, two spoonsful three or four times a-day, in disorders accompanied with great weakness and depression of spirits.

Expectorating Julep.—Take of the emulsion of gum ammoniac, six ounces; syrup of squills, two ounces. Mix them.

In coughs, asthmas, and obstructions of the breast, two table-spoonsful of this julep may be taken every three or four hours.

Musk Julep.—Rub half a drachm of musk well together with half an ounce of sugar, and add to it, gradually, of simple cinnamon and peppermint-water, each two ounces; of the volatile aromatic spirit, two drachms.

In the low state of nervous fevers, hiccuping, convulsions, and other spasmodic affections, two table-spoonsful of this julep may be taken every two or three hours.

Saline Julep.—Dissolve two drachms of salt of tartar in three ounces of fresh lemon juice, strained; when the effervescence is over, add of mint-water, and common water, each two ounces; of simple syrup, one ounce.

This removes sickness at the stomach, relieves vomiting, promotes perspiration, and may be of some service in fevers, especially of the inflammatory kind.

Vomiting Julep.—Dissolve four grains of emetic tartar in eight ounces of water, and add to it half an ounce of the syrup of clove July-flowers.

In the beginning of fevers, where there is no topical inflammation, this julep may be given in the dose of one table-spoonful every quarter of an hour till it operates. Antimonial vomits serve not only to evacuate the contents of the stomach, but likewise to promote the different excretions. Hence they are found in fevers to have nearly the same effects as *Dr. James's Powder*.

MIXTURES.

A MIXTURE differs from a julep in this respect, that it receives into its composition not only salts, extracts, and other substances dissoluble in water, but also earths, powders, and such substances as cannot be dissolved. A mixture is seldom either an elegant or agreeable medicine. It is nevertheless necessary. Many persons can take a mixture, who are not able to swallow a bolus or an electuary: besides, there are medicines which act better in this than in any other form.

Astringent Mixture.—Take simple cinnamon-water, and common water, of each three ounces; spirituous cinnamon-water, an ounce and a half; Japonic confection, half an ounce. Mix them.

In dysenteries which are not of long standing, after the necessary evacuations, a spoonful or two of this mixture may be taken every four hours, interposing every second or third day a dose of rhubarb.

The *Astringent Mixture,* which I have lately made use of with great success, is prepared thus:

Take powder of bole with opium, two drachms; cinnamon-water and penny-royal water, of each three ounces; spirituous cinnamon-water, six drachms; simple syrup, one ounce. Mix them, and take a table-spoonful four or five times a-day.

Diuretic Mixture.—Take of mint-water, five ounces; vinegar of squills, six drachms; sweet spirit of nitre, half an ounce; syrup of ginger, an ounce and a half. Mix them.

In obstructions of the urinary passages, two spoonsful of this mixture may be taken twice or thrice a-day.

Laxative Absorbent Mixture.—Rub one drachm of magnesia alba in a mortar with ten or twelve grains of the best Turkey rhubarb, and add to them three ounces of common water; simple cinnamon-water, and syrup of sugar, of each one ounce.

As most diseases of infants are accompanied with acidities, this mixture may either be given with a view to correct these, or to open the body. A table-spoonful may be taken for a dose, and repeated three times a-day. To a very young child half a spoonful will be sufficient.

When the mixture is intended to purge, the dose may either be increased, or the quantity of rhubarb doubled.

This is one of the most generally useful medicines for children with which I am acquainted.

Saline Mixture.—Dissolve a drachm of the salt of tartar in four ounces of boiling water; and when cold, drop into it spirit of vitriol till the effervescence ceases; then add, of peppermint-water, two ounces; simple syrup, one ounce.

Where fresh lemons cannot be had, this mixture may occasionally supply the place of the saline julep.

Squill Mixture.—Take of simple cinnamon-water, five ounces; vinegar of squills, one ounce; syrup of marshmallows, an ounce and a half. Mix them.

This mixture, by promoting expectoration, and the secretion of urine, proves serviceable in asthmatic and dropsical habits. A table-spoonful of it may be taken frequently.

Ointments, Liniments, and Cerates.

Notwithstanding the extravagant encomiums which have been best bestowed on different preparations of this kind, with regard to their efficacy in the cure of wounds, sores, &c. it is beyond a doubt, that the most proper application to a green wound is dry lint. But though ointments do not heal wounds and sores, yet they serve to defend them from the external air, and to retain such substances as may be necessary for drying, deterging, destroying proud flesh, and such like. For these purposes, however, it will be sufficient to insert only a few of the most simple forms, as ingredients of a more active nature can occasionally be added to them.

Yellow Basilicum Ointment.—Take of yellow wax, white resin, and frankincense, each a quarter of a pound; melt them together over a gentle fire; then add of hog's lard prepared, one pound. Strain the ointment while warm.

Employed for cleansing and healing wounds and ulcers.

Ointment of Calamine. (Turner's Cerate.)—Take of olive oil, a pint and a half; white wax, and calamine stone levigated, of each half a pound. Let the calamine stone, reduced into a fine powder, be rubbed with some part of the oil, and afterwards added to the rest of the oil and wax previously melted together, continually stirring them till quite cold.

An exceedingly good application in burns, and excoriations from whatever cause.

Emollient Ointment.—Take of palm oil, two pounds; olive oil, a pint and a half; yellow wax, half a pound; Venice turpentine, a quarter of a pound. Melt the wax in the oils over a gentle fire; then mix in the turpentine, and strain the ointment.

This supplies the place of *Althæa Ointment.* It may be used for anointing inflamed parts, &c.

Eye Ointment.—Take of hog's lard prepared, four ounces; white wax, two drachms; tutty prepared, one ounce; melt the wax with the lard over a gentle fire, and then sprinkle in the tutty, continually stirring them till the ointment is cold.

This preparation will be more efficacious, and of a better consistence, if two or three drachms of camphor be rubbed up with a little oil, and intimately mixed with it.

Another.—Take of camphor, and calamine stone levigated, each six drachms; verdegrise, well prepared, two drachms; hog's lard, and mutton-suet, prepared, of each two ounces. Rub the camphor well with the powder; afterwards mix in the lard and suet, continuing the triture till they be perfectly united.

This ointment has been long in esteem for diseases of the eyes. It ought, however, to be used with caution, when the eyes are much inflamed, or very tender.

Issue Ointment.—Mix half an ounce of Spanish flies, finely powdered, in six ounces of yellow basilicum ointment.

This ointment is chiefly intended for dressing blisters; in order to keep them open during pleasure.

Ointment of Lead.—Take of olive oil, half a pint; white wax, two ounces; sugar of lead, three drachms. Let the sugar of lead, reduced into a fine powder, be rubbed up with some part of the oil, and afterwards added to the other ingredients, previously melted together, continually stirring them till quite cold.

This cooling and gently astringent ointment may be used in all cases where the intention is to dry and skin over the part, as in scalding, &c.

Mercurial Ointment.—Take of quicksilver, two ounces; hog's lard, three ounces; mutton suet, one ounce. Rub the quicksilver with an ounce of the hog's lard in a warm mortar, till the globules be perfectly extinguished; then rub it up with the rest of the lard and suet, previously melted together.

The principal intention of this ointment is to convey mercury into the body by being rubbed upon the skin.

Ointment of Sulphur.—Take of hog's lard prepared, four ounces; flowers of sulphur, an ounce and a half; crude salammoniac, two drachms; essence of lemon, ten or twelve drops. Make them into an ointment.

This ointment, rubbed upon the parts affected, will generally cure the itch. It is both the safest and best application for that purpose, and, when made in this way, has no disagreeable smell.

Ointment for Diseases of the Skin.—Take of the ointment, commonly called *unguentum citrinum*, a drachm and a half; flour of brimstone and powder of hellebore, of each an ounce; hog's lard, three ounces; essence of lemon, or oil of thyme, from twenty to thirty drops, to correct the offensiveness of the smell. Make them into an ointment.

I have not only known many ordinary affections of the skin cured by this ointment, but even some of a very malignant nature, and approaching to leprosy.

White Ointment.—Take of olive-oil, one pint; white wax and spermaceti, of each three ounces. Melt them with a gentle heat, and keep them constantly and briskly stirring together, till quite cold.

If two drachms of camphor, previously rubbed with a small quantity of oil, be added to the above, it will make the *White camphorated Ointment.*

Liniment for Burns.—Take equal parts of Florence oil, or of fresh drawn linseed oil, and lime-water, shake them well together in a wide-mouthed bottle, so as to form a liniment.

This is found to be an exceedingly proper application for recent scalds or burns. It may either be spread upon a cloth, or the parts affected may be anointed with it twice or thrice a-day.

White Liniment.—This is made in the same manner as the white ointment, two-thirds of the wax being left out.

This liniment may be applied in cases of excoriation, where, on account of the largeness of the surface, the ointments with lead or calamine might be improper.

Liniment for the Piles.—Take of emollient ointment, two ounces; liquid laudanum, half an ounce. Mix these ingredients with the yolk of an egg, and work them well together.

Volatile Liniment.—Take of Florence oil, an ounce; spirit of hartshorn, half an ounce. Shake them together.

This liniment, made with equal parts of the spirit and oil, will be more efficacious, where the patient's skin is able to bear it.

Sir John Pringle observes, that in the inflammatory quinsey, a piece of flannel moistened with this liniment, and applied to the throat, to be renewed every four or five hours, is one of the most efficacious remedies; and that it seldom fails, after bleed-

hours, is one of the most efficacious remedies; and that it seldom fails, after bleeding, either to lessen or carry off the complaint. The truth of this observation I have often experienced.

Camphorated Oil.—Rub an ounce of camphor, with two ounces of Florence oil, in a mortar, till the camphor be entirely dissolved.

This antispasmodic liniment may be used in obstinate rheumatism, and in some other cases accompanied with extreme pain and tension of the parts.

PILLS.

MEDICINES which operate in a small dose, and whose disagreeable taste or smell makes it necessary that they should be concealed from the palate, are more commodiously exhibited in this form. No medicine, however, that is intended to operate quickly, ought to be made into pills, as they often lie for a considerable time on the stomach before they are dissolved, so as to produce any effect.

As the ingredients which enter the composition of pills are generally so contrived, that one pill of an ordinary size may contain about five grains of the compound, in mentioning the dose we shall only specify the number of pills to be taken: as one, two, three, &c.

Composing Pill.—Take of purified opium, ten grains; Castile soap, half a drachm. Beat them together, and form the whole into twenty pills.

When a quieting draught will not sit upon the stomach, one, two, or three of these pills may be taken, as occasion requires.

Deobstruent Pill.—Take salt of steel; succotrine aloes; myrrh in powder; of each a drachm. Make into forty pills, of which two are to be taken evening and morning.

I have found these pills of excellent service in obstructions of the *menses*. The late Dr. WATKINSON made it his dying request, that I would insert this prescription in the "Domestic Medicine," which he said would be immortal, and that "his soul panted for immortality."

Fœtid Pill.—Take of asafœtida, half an ounce; simple syrup, as much as is necessary to form it into pills.

In hysteric complaints, four or five pills, of an ordinary size, may be taken twice or thrice a-day. They may likewise be of service to persons afflicted with the asthma.

When it is necessary to keep the body open, a proper quantity of rhubarb, aloes, or jalap, may occasionally be added to the above mass.

Hemlock Pill.—Take any quantity of the extract of hemlock, and adding to it about a fifth part its weight of the powder of the dried leaves, form it into pills of the ordinary size.

The extract of hemlock may be taken from one grain to several drachms in the day. The best method, however, of using these pills, is to begin with one or two, and to increase the dose gradually, as far as the patient can bear them, without any remarkable degree of stupor or giddiness.

Mercurial Pill.—Take of purified quicksilver and honey, each half an ounce. Rub them together in a mortar, till the globules of mercury are perfectly extinguished; then add, of Castile soap, two drachms; powdered liquorice, or crumb of bread, a sufficient quantity to give the mass a proper consistence for pills.

When stronger mercurial pills are wanted, the quantity of quicksilver may be doubled.

The dose of these pills is different, according to the intention with which they are given. As an alterant, two or three may be taken daily. To raise a salivation, four or five will be necessary.

Equal parts of the above pill and powdered rhubarb, made into a mass, with a sufficient quantity of simple syrup, will make a *Mercurial Purging Pill.*

Mercurial Sublimate Pill.—Dissolve fifteen grains of the corrosive sublimate of mercury in two drachms or the saturated solution of crude sal ammoniac, and make it into a paste, in a glass mortar, with a sufficient quantity of the crumb of bread. This must be formed into one hundred and twenty pills.

For the venereal disease, four of these pills may be taken twice a-day, as an alterant three, and for worms, two.

This pill, which is the most agreeable form of exhibiting the sublimate, has been found efficacious, not only in curing the venereal disease, but also in killing and expelling *worms*, after other powerful medicines had failed.*

Plummer's Pill.—Take of calomel, or sweet mercury, and precipitated sulphur of

* See a paper on this subject in the Edinburgh Physical and Literary Essays, by the ingenious Dr. John Gardener.

antimony, each three drachms; extract of liquorice, two drachms. Rub the sulphur and mercury well together: afterwards add the extract, and with a sufficient quantity of the mucilage of gumarabic, make them into pills.

This pill has been found a powerful, yet safe alterative in obstinate cutaneous disorders; and has completed a cure after salivation had failed. In venereal cases it has likewise produced excellent effects. Two or three pills of an ordinary size may be taken night and morning, the patient keeping moderately warm, and drinking after each dose a draught of decoction of the woods, or of sarsaparilla.

Purging Pill.—Take of succotrine aloes, and Castile soap, each two drachms; of simple syrup, a sufficient quantity to make them into pills.

Four or five of these pills will generally prove a sufficient purge. For keeping the body gently open, one may be taken night and morning. They are reckoned both deobstruent and stomachic, and will be found to answer all the purposes of Dr. Anderson's pills, the principal ingredient of which is aloes.

Where aloetic purges are improper, the following pills may be used:—

Take extract of jalap, and vitriolated tartar, of each two drachms; syrup of ginger, as much as will make them of a proper consistence for pills. To be taken in the same quantity as the above.

Purgative Pill.—Take powder or succotrine aloes, one drachm; of gum sagapene in powder, half a drachm; of gamboge, and gum arabic in powder, each, one scruple; essential oil of camomile, ten drops; syrup of buckthorn, a sufficient quantity; beat the whole into a mass, and divide into thirty-two pills.

This pill was contrived by that eminent physician, the late Dr. George Fordyce. It is an excellent purgative, where the bowels are torpid, as in paralytic affections One or two may be taken at bed-time. A. P. B.

Pill for the Bile.—Take gum pill and colocynth pill, each a drachm. Beat them together, and make the mass into thirty pills.

In bilious and nervous patients, where it was necessary to keep the body gently open, I have found these pills answer the purpose extremely well. I generally give one over-night, and another next morning, once or twice a-week. But the dose must be regulated by the effect.

Pill for the Jaundice.—Take of Castile soap, succotrine aloes, and rhubarb, of each one drachm. Make them into pills, with a sufficient quantity of syrup or mucilage.

These pills, as their title expresses, are chiefly intended for the jaundice, which, with the assistance of proper diet, they will often cure. Five or six of them may be taken twice a-day, more or less, as is necessary to keep the body open. It will be proper, however, during their use, to interpose now and then a vomit of ipecacuanha or tartar emetic.

Stomachic Pill.—Take extract of gentian, two drachms; powdered rhubarb, and vitriolated tartar, of each one drachm; oil of mint, thirty drops; simple syrup, a sufficient quantity.

Three or four of these pills may be taken twice a-day, for invigorating the stomach, and keeping the body gently open.

Squill Pills.—Take powder of dried squills, a drachm and a half; gum ammoniac, and cardamom seeds, in powder, of each three drachms; simple syrup, a sufficient quantity.

In dropsical and asthmatic complaints, two or three of these pills may be taken twice a-day, or oftener, if the stomach will bear them.

Strengthening Pills.—Take soft extract of the bark, and salt of steel, each a drachm. Make into pills.

In disorders arising from excessive debility, or relaxation of the solids, as the *chlorosis*, or green sickness, two of these pills may be taken three times a-day.

Plasters.

Plasters ought to be of a different consistence, according to the purposes for which they are intended. Such as are to be applied to the breasts or stomach, ought to be soft and yielding; while those designed for the limbs should be firm and adhesive.—It has been supposed, that plasters might be impregnated with the virtues of different vegetables, by boiling the recent vegetable with the oil employed for the composition of the plaster; but this treatment does not communicate to the oils any valuable qualities.—The *calces* of lead boiled with oils unite with them into a plaster of a proper consistence, which makes the basis of several other plasters. In boiling these compositions, a quantity of hot water must be added from time to time to prevent the plaster from burning or growing black. This, however, should be done with care, lest it cause the matter to explode.

Common Plaster.—Take of common olive oil, six pints; litharge, reduced to a fine powder, two pounds and a half. Boil the litharge and oil together over a gentle fire, continually stirring them, and keeping always about a half a gallon of water in the vessel; after they have boiled about three hours, a little of the plaster may be taken out and put into cold water, to try if it be of a proper consistence: when that is the case, the whole may be suffered to cool, and the water well pressed out of it with the hands.

This plaster is generally applied in slight wounds and excoriations of the skin. It keeps the part soft and warm, and defends it from the air, which is all that is necessary in such cases. Its principal use, however, is to serve as a basis for other plasters.

Adhesive Plaster.—Take of common plaster, half a pound; of Burgundy pitch, a quarter of a pound. Melt them together.

This plaster is principally used for keeping on other dressings.

Anodyne Plaster.—Melt an ounce of adhesive plaster, and when it is cooling, mix with it a drachm of powdered opium, and the same quantity of camphor, previously rubbed up with a little oil.

This plaster generally gives ease in acute pains, especially of the nervous kind.

Blistering Plaster.—Take of Venice turpentine, six ounces; yellow wax, two ounces; Spanish flies in fine powder, three ounces; powdered mustard, one ounce. Melt the wax, and while it is warm, add to it the turpentine, taking care not to evaporate it by too much heat. After the turpentine and wax are sufficiently incorporated, sprinkle in the powder, continually stirring the mass till it be cold.

Though this plaster is made in a variety of ways, one seldom meets with it of a proper consistence. When compounded with oils and other greasy substances, its effects are blunted, and it is apt to run; while pitch and resin render it too hard and very inconvenient.

When the blistering-plaster is not at hand, its place may be supplied by mixing with any soft ointment a sufficient quantity of powdered flies; or by forming them into a paste with flour and vinegar.

Blistering-plasters prove highly disagreeable to many people, by occasioning stranguary. I have, therefore, of late used a plaster, in which a small quantity of blistering-salve has been mixed with the Burgundy pitch-plaster. I lay it over the part affected, and suffer it to remain as long as it will stick. The blistering-plaster loses its effect in a few hours, whereas this will act for many days, or even weeks, and seldom fails to remove pain, or slight obstructions.

Gum Plaster.—Take of the common plaster, four pounds; gum ammoniac and galbanum, strained, of each half a pound. Melt them together, and add, of Venice turpentine, six ounces.

This plaster is used as a digestive, and likewise for discussing indolent tumours.

Mercurial Plaster.—Take of common plaster, one pound; of gum ammoniac, strained, half a pound. Melt them together, and, when cooling, add eight ounces of quicksilver, previously extinguished by triture, with three ounces of hog's lard.

This plaster is recommended in pains of the limbs arising from a venereal cause. Indurations of the glands, and other indolent tumours, are likewise found sometimes to yield to it.

Stomach Plaster.—Take of gum plaster, half a pound; camphorated oil, an ounce and a half; black pepper, or capsicum, where it can be had, one ounce. Melt the plaster, and mix with it the oil; then sprinkle in the pepper, previously reduced to a fine powder.

An ounce or two of this plaster, spread upon soft leather, and applied to the region of the stomach, will be of service in flatulencies arising from hysteric and hypochondriac affections. A little of the expressed oil of mace, or a few drops of the essential oil of mint, may be rubbed upon it before it is applied.

This may supply the place of the *Anti-hysteric Plaster.*

Warm Plaster.—Take of gum plaster, one ounce; blistering-plaster, two drachms. Melt them together over a gentle fire.

This plaster is useful in the sciatica and other fixed pains of the rheumatic kind: it ought, however, to be worn for some time, and to be renewed at least once a-week. If this is found to blister the part, which is sometimes the case, it must be made with a smaller proportion of the blistering-plaster.

Wax Plaster.—Take of yellow wax, one pound; white resin, half a pound; mutton-suet, three quarters of a pound. Melt them together.

This is generally used instead of the *Melilot Plaster.* It is a proper application after blisters, and in other cases where a gentle digestive is necessary.

Poultices.

Through some oversight, this article was omitted in the earlier editions, though it relates to a class of medicines by no means unimportant. Poultices are often beneficial, even in the most simple form; but more so, when employed to retain more active medicines,—to keep them in contact with the skin,—and to fit it for their absorption. Every nurse knows how to make a poultice.

A poor woman who had received a very dangerous wound in the tendons of her thumb from a rusty nail, called upon me some little time since. As her case properly belonged to the department of surgery, I advised her to apply to the hospital; but the official hirelings there refused to take her in, though I always understood that they were *obliged to take in accidents.* It seems, however, that some very confined meaning was annexed to this word by the surgeon on duty, and that he did not think the danger of a locked jaw to be an *accident* as deserving of his pity and immediate assistance, as a broken arm, or dislocated ancle. The poor woman came back to me; and, as her situation became every moment more and more alarming, the pain and inflammation having reached as high as the arm-pit, I advised her to apply to the whole hand and arm a large poultice, with an ounce of laudanum sprinkled over it, and to renew the poultice twice a-day. This she did with so much success, that the thumb is now quite well, though the accident did not happen above three weeks ago.

Alarming as the case was, I had some reason to rely on the efficacy of the poultice, from a former trial somewhat similar. One of those girls, who are employed by bookbinders in stitching the sheets, having wounded her finger with the three-edged needle used on such occasions, soon felt the pain shoot upwards with deadly tendency. I ordered her to apply the same sort of poultice with laudanum, which had the same happy effect.

Both these patients made use of the *Common Poultice;* but I prefer one made of linseed flour, which is more easily prepared, and keeps moist longer than any other.

Powders.

This is one of the most simple forms in which medicine can be administered. Many medicinal substances, however, cannot be reduced into powder, and others are too disagreeable to be taken in this form. The lighter powders may be mixed in any agreeable thin liquor, as tea or water-gruel. The more ponderous will require a more consistent vehicle, as syrup, conserve, jelly, or honey. Gums, and other substances, which are difficult to powder, should be pounded along with the drier ones; but those which are too dry, especially aromatics, ought to be sprinkled during their pulverization with a few drops of any proper water. Aromatic powders are to be prepared only in small quantities at a time, and kept in glass vessels closely stopped. Indeed, no powders ought to be exposed to the air, or kept too long, otherwise their virtues will be in great measure destroyed.

Astringent Powder.—Take of alum and Japan earth, each two drachms. Pound them together, and divide the whole into ten or twelve doses.

In an immoderate flow of the *menses*, and other hæmorrhages, one of these powders may be taken every hour, or every half-hour, if the discharge be violent.

Powder of Bole.—Take of Bole armenic, or French Bole, two ounces; cinnamon, one ounce; tormentil root and gum arabic of each six drachms; long pepper, one drachm. Let all these ingredients be reduced into a powder.

This warm, glutinous, astringent powder is given in fluxes, and other disorders where medicines of that class are necessary, in the dose of a scruple, or half a drachm.

If a drachm of opium be added, it will make the *Powder of Bole with Opium*, which is a medicine of considerable efficacy. It may be taken in the same quantity as the former, but not above twice or thrice a-day.

Carminative Powder.—Take of coriander-seed, half an ounce; ginger, one drachm; nutmegs, half a drachm; fine sugar, a drachm and a half. Reduce them into powder for twelve doses.

This powder is employed for expelling flatulencies arising from indigestion, particularly those to which hysteric and hypochondriac persons are so liable. It may likewise be given in small quantities to children in their food, when troubled with gripes.

Diuretic Powder.—Take of gum arabic four ounces; purified nitre, one ounce. Pound them together, and divide the whole into twenty-four doses.

During the first stage of the venereal disease, one of these cooling powders may be taken three times a-day, with considerable advantage.

Aromatic Opening Powder.—Take the best Turkey rhubarb, cinnamon, and fine sugar, each two drachms Let the ingredients be pounded, and afterwards mixed well together.

When flatulency is accompanied with costiveness, a tea-spoonful of this powder may be taken once or twice a-day, according to circumstances.

Saline Laxative Powder.—Take of soluble tartar, and cream of tartar, each one drachm; purified nitre, half a drachm. Make them into a powder.

In fevers and other inflammatory disorders, where it is necessary to keep the body gently open, one of these cooling laxative powders may be taken in a little gruel, and repeated occasionally.

Steel Powder.—Take filings of steel, and loaf sugar, of each two ounces; ginger, two drachms. Pound them together.

In obstructions of the *menses*, and other cases where steel is proper, a tea-spoonful of this powder may be taken twice a-day, and washed down with a little wine and water.

Sudorific Powder.—Take purified nitre and vitriolated tartar, of each half an ounce; opium and ipecacuanha, of each one drachm. Mix the ingredients, and reduce them to a fine powder.

This is generally known by the name of *Dover's Powder*. It is a powerful sudorific. In obstinate rheumatisms, and other cases where it is necessary to excite a copious sweat, this powder may be administered in the dose of a scruple or half a drachm. Some patients will require two scruples. It ought to be accompanied with the plentiful use of some warm diluting liquor.

Worm Powder.—Take of tin reduced into a fine powder, an ounce; Æthiops mineral, two drachms. Mix them well together, and divide the whole into six doses.

One of these powders may be taken in a little syrup, honey, or treacle, twice a-day. After they have been all used, the following anthelmintic purge may be proper.

Purging Worm Powder.—Take the powdered rhubarb, a scruple; scammony and calomel of each five grains. Rub them together in a mortar for one dose. For children, however, these doses must be lessened according to their age.

If the powder of tin be given alone, its dose may be considerably increased. The late Dr. Alston gave it to the amount of two ounces in three days, and says, when thus administered, that it proves an egregious anthelmintic. He purged his patients both before they took the powder and afterwards.

Powder for the Tape Worm.—Early in the morning the patient is to take in any liquid two or three drachms, according to his age and constitution, of the root of the male fern reduced into a fine powder. About two hours afterwards, he is to take of calomel and resin of scammony, each ten grains; gum gamboge, six grains. These ingredients must be finely powdered and given in a little syrup, honey, treacle, or any thing that is most agreeable to the patient. He is then to walk gently about, now and then drinking a dish of weak green tea, till the worm is passed. If the powder of the fern produces nausea or sickness, it may be removed by sucking the juice of an orange or lemon.

This medicine, which had been long kept a secret abroad for the cure of the tape-worm, was some time ago purchased by the French king, and made public for the benefit of mankind. Not having had an opportunity of trying it, I can say nothing from experience concerning its efficacy. It seems, however, from its ingredients, to be an active medicine, and ought to be taken with care. The dose here prescribed is sufficient for the strongest patient; it must, therefore, be reduced according to the age and constitution.

Syrups.

Syrups were some time ago looked upon as medicines of considerable value. They are at present, however, regarded chiefly as vehicles for medicines of greater efficacy, and are used for sweetening draughts, juleps, or mixtures; and for reducing the lighter powders into boluses, pills, and electuaries. As all these purposes may be answered by the simple syrup alone, there is little occasion for any other; especially as they are seldom found but in a state of fermentation; and as the dose of any medicine given in this form is very uncertain. Persons who serve the public must keep whatever their customers call for; but, to the private practitioner, nine-tenths of the syrups usually kept in the shops are unnecessary.

Simple Syrup—Is made by dissolving in water, either with or without heat, about double its weight of fine sugar.

If twenty-five drops of laudanum be added to an ounce of the simple syrup, it will supply the place of diacodium, or the syrup of poppies, and will be found a more safe and certain medicine.

The lubricating virtues of the syrup of marshmallows may likewise be supplied, by adding to the common syrup a sufficient quantity of mucilage of gum arabic.

Those who choose to preserve the juice of lemons in form of syrup, may dissolve in it, by the heat of a warm bath, nearly double its weight of fine sugar. The juice ought to be previously strained, and suffered to stand till it settles.

The syrup of ginger is sometimes of use as a warm vehicle for giving medicine to persons afflicted with flatulency. It may be made by infusing two ounces of bruised ginger in two pints of boiling water for twenty-four hours. After the liquor has been strained, and has stood to settle for some time, it may be poured off, and a little more than double its weight of fine powdered sugar dissolved in it.

TINCTURES, ELIXIRS, &c.

RECTIFIED spirit is the direct menstruum of the resins and essential oils of vegetables, and totally extracts these active principles from sundry substances, which yield them to water, either not at all, or only in part.

It dissolves likewise those parts of animal substances in which their peculiar smells and tastes reside. Hence, the tinctures prepared with rectified spirits form an useful and elegant class of medicines, possessing many of the most essential virtues of simples, without being clogged with their inert or useless parts.

Water, however, being the proper menstruum of the gummy, saline, and saccharine parts of medicinal substances, it will be necessary, in the preparation of several tinctures, to make use of a weak spirit, or a composition of rectified spirit and water.

Aromatic Tincture.—Infuse two ounces of Jamaica pepper in two pints of brandy, without heat, for a few days: then strain off the tincture.

This simple tincture will sufficiently answer all the intentions of the more costly preparations of this kind. It is rather too hot to be taken by itself; but is very proper for mixing with such medicines as might otherwise prove too cold for the stomach.

Compound Tincture of the Bark.—Take of Peruvian bark, two ounces; Seville orange-peel and cinnamon, of each half an ounce. Let the bark be powdered and the other ingredients bruised: then infuse the whole in a pint and a half of brandy, for five or six days, in a close vessel; afterwards strain off the tincture.

The dose is from one drachm to three or four, every fifth or sixth hour. It may be given in any suitable liquor, and occasionally sharpened with a few drops of the spirits of vitriol.

This tincture is not only beneficial in intermitting fevers, but also in the slow, nervous, and putrid kinds, especially towards their decline.

Volatile Fœtid Tincture.—Infuse two ounces of asafœtida in one pint of volatile aromatic spirit, for eight days, in a close bottle, frequently shaking it; then strain the tincture.

This medicine is beneficial in hysteric disorders, especially when attended with lowness of spirits, and faintings. A tea-spoonful of it may be taken in a glass of wine, or a cup of penny-royal tea.

Volatile Tincture of Gum Guaiacum.—Take of gum guaiacum, four ounces; volatile aromatic spirit, a pint. Infuse without heat, in a vessel well stopped, for a few days; then strain off the tincture.*

In rheumatic complaints, a tea-spoonful of this tincture may be taken in a cup of the infusion of water trefoil, twice or thrice a-day.

Tincture of Black Hellebore.—Infuse two ounces of the roots of black hellebore, bruised, in a pint of proof spirit, for seven or eight days; then filter the tincture through paper. A scruple of cochineal may be infused along with the roots, to give the tincture a colour.

In obstructions of the *menses*, a tea-spoonful of this tincture may be taken in a cup of camomile or penny-royal tea twice a-day.

Astringent Tincture.—Digest two ounces of gum kino, in a pint and a half of brandy, for eight days; afterwards strain it for use.

This tincture, though not generally known, is a good astringent medicine. With this view, an ounce, or more, of it may be taken three or four times a-day.

Tincture of Myrrh and Aloes.—Take of gum myrrh, an ounce and a half; hepatic aloes, one ounce. Let them be reduced to a powder, and infused in two pints of rectified spirits, for six days, in a gentle heat; then strain the tincture.

This is principally used by surgeons for cleansing foul ulcers, and restraining the progress of gangrenes. It is also, by some, recommended as a proper application to green wounds.

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* A very good tincture of guaiacum, for domestic use, may be made by infusing two or three ounces of the gum in a bottle of rum or brandy.

Tincture of Opium (*Liquid Laudanum.*)—Take of crude opium, two ounces; spirituous aromatic water, and mountain wine, of each ten ounces. Dissolve the opium, sliced, in the wine, with a gentle heat, frequently stirring it; afterwards add the spirit, and strain off the tincture.

As twenty-five drops of this tincture contain about a grain of opium, the common dose may be from twenty to thirty drops.

Sacred Tincture, or Tincture of Hiera Picra.—Take of succotrine aloes in powder, one ounce; Virginian snake-root and ginger, of each two drachms. Infuse in a pint of mountain wine, and half a pint of brandy, for a week, frequently shaking the bottle; then strain off the tincture.

This is a safe and useful purge for persons of a languid and phlegmatic habit: but t is thought to have better effects, taken in small doses as a laxative.

The dose, as a purge, is from one to two ounces.

Compound Tincture of Senna.—Take of senna, one ounce; jalap, coriander-seeds, and cream of tartar, of each half an ounce. Infuse them in a pint and a half of French brandy for a week; then strain the tincture, and add to it four ounces of fine sugar.

This is an agreeable purge, and answers all the purposes of the *Elixir Salutis*, and of *Daffy's Elixir*. The dose is from one to two or three ounces.

Tincture of Spanish Flies.—Take of Spanish flies, reduced to a fine powder, two ounces; spirit of wine, one pint. Infuse for two or three days; then strain off the tincture.

This is intended as an acrid stimulant for external use. Parts affected with the palsy, or chronic rheumatism, may be frequently rubbed with it.

Tincture of the Balsam of Tolu.—Take of the balsam of Tolu, an ounce and a half; rectified spirit of wine, a pint. Infuse in a gentle heat until the balsam is dissolved; then strain the tincture.

This tincture possesses all the virtues of the balsam. In coughs, and other complaints of the breast, a tea-spoonful or two of it may be taken on a bit of loaf-sugar. But the best way of using it is in syrup. An ounce of the tincture properly mixed with two pounds of simple syrup, will make what is commonly called the *Balsamic Syrup*.

Tincture of Rhubarb.—Take of rhubarb, two ounces and a half; lesser cardamom-seeds half an ounce; brandy, two pints. Digest for a week, and strain the tincture.

Those who choose to have a vinous tincture of rhubarb may infuse the above ingredients in a bottle of Lisbon wine, adding to it about two ounces of proof spirits.

If half an ounce of gentian root, and a drachm of Virginian snake-root, be added to the above ingredients, it will make the bitter tincture of rhubarb.

All these tinctures are designed as stomachics and corroborants as well as purgatives. In weakness of the stomach, indigestion, laxity of the intestines, fluxes, colicky and such like complaints, they are frequently of great service. The dose is from half a spoonful to three or four spoonsful or more, according to the circumstances of the patient, and the purposes it is intended to answer.

The Tonic Tincture.—Mix two ounces of the compound tincture of Peruvian bark with the like quantity of the volatile tincture of Valerian; and of this mixture a tea-spoonful in a glass of wine or water is to be taken three or four times a-day.

I have long made use of this tincture for the relief of those peculiar affections of the stomach and bowels, such as indigestion, &c. which generally accompany nervous diseases. I do not say that the tincture will cure those complaints, nor do I know of any medicine that will; but where a complete cure cannot be rationally expected, relief is certainly a very desirable object.

Paregoric Elixir.—Take of flowers of benzoin, half an ounce; opium, two drachms. Infuse in one pound of the volatile aromatic spirit, for four or five days, frequently shaking the bottle; afterwards strain the elixir.

This is an agreeable and safe way of administering opium. It eases pain, allays tickling coughs, relieves difficult breathing, and is useful in many disorders of children, particularly the hooping-cough. The dose to an adult is from fifty to an hundred drops.

Sacred Elixir.—Take of rhubarb, cut small, ten drachms; succotrine aloes, in powder, six drachms; lesser cardamom-seeds, half an ounce; French brandy, two pints. Infuse for two or three days, and then strain the elixir.

This useful stomachic purge may be taken from one ounce to an ounce and a half.

Stomachic Elixir.—Take of gentian root, two ounces; Curassoa oranges, one ounce; Virginian snake-root, half an ounce. Let the ingredients be bruised, and infused for three or four days in two pints of French brandy; afterwards strain out the elixir.

This is an excellent stomach bitter. In flatulencies, indigestion, want of appetite,

and such like complaints, a small glass of it may be taken twice a-day. It likewise relieves the gout in the stomach, when taken in a large dose.

Acid Elixir of Vitriol.—Take of the aromatic tincture, one pint; oil of vitriol, three ounces. Mix them gradually, and after the fæces have subsided, filter the elixir through paper, in a glass funnel.

This is one of the best medicines which I know for hysteric and hypochondriac patients, afflicted with flatulencies arising from relaxation or debility of the stomach and intestines. It will succeed where the most celebrated stomachic bitters have no effect. The dose is from ten to forty drops, in a glass of wine or water, or a cup of any bitter infusion, twice or thrice a-day. It should be taken when the stomach is most empty.

Camphorated Spirit of wine.—Dissolve an ounce of camphor in a pint of rectified spirits.

This solution is chiefly employed as an embrocation in bruises, palsics, the chronic rheumatism, and for preventing gangrenes. The above quantity of camphor, dissolved in half a pound of the volatile aromatic spirit, makes *Ward's Essence.*

Spirit of Mindererus. (Solution of acetated Ammonia.) Take of volatile sal ammoniac, any quantity. Pour on it gradually distilled vinegar, till the effervescence ceases.

This medicine is useful in promoting a discharge both by the skin and urinary passage. It is also a good external application in strains and bruises. When intended to raise a sweat, half an ounce of it in a cup of warm gruel may be given to the patient in bed every hour till it has the desired effect.

VINEGARS.

VINEGAR is an acid produced from vinous liquors by a second fermentation. It is an useful medicine both in inflammatory and putrid disorders. Its effects are, to cool the blood, quench thirst, counteract a tendency to putrefaction, and allay inordinate motions of the system. It likewise promotes the natural secretions, and in some cases excites a copious sweat, where the warm medicines, called alexipharmic, tend rather to prevent that salutary evacuation.

Vinegar is also advantageously employed in burns and scalds; by keeping the parts constantly wet with it, by means of linen rags. "In severe burns and scalds," observes Mr. Cleghorn, "which have recently happened, and which are attended with large blisters, excoriations or loss of substance, the vinegar must be constantly applied till the heat and pain nearly cease, which will happen in from two to eight hours, according as the injury is more or less severe. The sores must be covered with rags or cloths well wetted, which, as often as they dry, or any sensation of pain or heat returns, must be wetted afresh with the vinegar, for two, three, or four hours."

Weakness, faintings, vomitings, and other hysteric affections, are often relieved by vinegar applied to the mouth and nose, or received into the stomach. It is of excellent use also in correcting many poisonous substances, when taken into the stomach; and in promoting their expulsion, by the different emunctories, when received into the blood.

Vinegar is not only an useful medicine, but serves likewise to extract, in tolerable perfection, the virtues of several other medicinal substances. Most of the odoriferous flowers impart to it their fragrance, together with a beautiful purplish or red colour. It also assists or coincides with the intention of squills, garlic, gum ammoniac, and several other valuable medicines.

These effects, however, are not to be expected from every thing that is sold under the name of vinegar, but from such as is sound and well prepared.

The best vinegars are those prepared from French wines.

It is necessary for some purposes that the vinegar be distilled; but as this operation requires a particular chemical apparatus, we shall not insert it.

Vinegar of Litharge.—Take of litharge, half a pound; strong vinegar, two pints. Infuse them together in a moderate heat for three days, frequently shaking the vessel; then filter the liquor for use.

This medicine is little used, from a general notion of its being dangerous. There is reason, however, to believe, that the preparations of lead with vinegar are possessed of some valuable properties, and that they may be used in many cases with safety and success.

A preparation of a similar nature with the above has of late been extolled by Goulard, a French surgeon, as a safe and extensively-useful medicine, which he calls the *Extract of Saturn*, and orders to be made in the following manner:—

Take of litharge, one pound; vinegar made of French wine, two pints. Put them together into a glazed earthen pipkin, and let them boil, or rather simmer, for an hour, or an hour and a quarter, taking care to stir them all the while with a wooden

spatula. After the whole has stood to settle, pour off the liquor which is upon the top into bottles for use.

With this extract Goulard makes his *vegeto mineral water*,* which he recommends in a great variety of external disorders, as inflammations, burns, bruises, sprains, ulcers, &c.

He likewise prepares with it a number of other forms of medicine, as poultices, plasters, ointments, powders, &c.

Vinegar of Roses.—Take of red roses, half a pound; strong vinegar, half a gallon. Infuse in a close vessel for several weeks, in a gentle heat; and then strain off the liquor.

This is principally used as an embrocation for headachs, &c.

Vinegar of Squills.—Take of dried squills, two ounces; distilled vinegar, two pints. Infuse for ten days or a fortnight in a gentle degree of heat, afterwards strain off the liquor, and add to it about a twelfth part of its quantity of proof spirits.

This medicine has good effects in disorders of the breast, occasioned by a load of viscid phlegm. It is also of use in hydropic cases for promoting a discharge of urine.

The dose is from two drachms to two ounces, according to the intention for which it is given. When intended to act as a vomit, the dose ought to be large. In other cases it must not only be exhibited in small doses, but also mixed with cinnamon-water, or some other agreeable aromatic liquor, to prevent the nausea it might otherwise occasion.

Waters by Infusion, &c.

Lime Water.—Pour two gallons of water gradually upon a pound of fresh burnt quicklime; and when the ebullition ceases, stir them well together; then suffer the whole to stand at rest, that the lime may settle, and afterwards filter the liquor through paper, which is to be kept in vessels closely stopped. The lime-water from calcined oyster-shells is prepared in the same manner.

Lime-water is principally used for the gravel; in which case, from a pint or two or more of it may be drank daily. Externally it is used for washing foul ulcers, and removing the itch, and other diseases of the skin.

Compound Lime Water.—Take shavings of guaiacum wood, half a pound; liquorice-root, one ounce; sassafras bark, half an ounce; coriander-seeds, three drachms; simple lime-water, six pints. Infuse without heat for two days, and then strain off the liquor.

In the same manner may lime-water be impregnated with the virtues of the other vegetable substances. Such impregnation not only renders the water more agreeable to the palate, but also a more efficacious medicine, especially in cutaneous disorders and foulness of the blood and juices.

It may be taken in the same quantity as the simple water.

Sublimate Water.—Dissolve eight grains of the corrosive sublimate in a pint of cinnamon-water. If a stronger solution be wanted, a double or triple quantity of sublimate may be used.

The principal intention of this is to cleanse foul ulcers, and consume proud flesh.

Styptic Water.—Take of blue vitriol and alum, each an ounce and a half; water, one pint. Boil them until the salts are dissolved, then filter the liquor, and add to it a drachm of the oil of vitriol.

This water is used for stopping a bleeding at the nose, and other hæmorrhages; for which purpose cloths or dossils dipped in it must be applied to the part.

Tar Water.—Pour a gallon of water on two pounds of Norway tar, and stir them strongly together with a wooden rod; after they have stood to settle for two days, pour off the water for use.

Though tar-water falls greatly short of the character which has been given of it, yet it possesses some medicinal virtues. It sensibly raises the pulse, increases the secretions, and sometimes opens the body, or occasions vomiting.

A pint of it may be drank daily, or more, if the stomach can bear it. It is generally ordered to be taken on an empty stomach, viz. four ounces morning and evening, and the same quantity about two hours after breakfast and dinner.

Simple Distilled Waters.

A great number of distilled waters were formerly kept in the shops, and are still retained in some Dispensatories. But we consider them chiefly in the light of grateful diluents, suitable vehicles for medicines of greater efficacy, or for rendering disgustful

* See *Collyrium of Lead.*

diluents, suitable vehicles for medicines of greater efficacy, or for rendering disgustful ones more agreeable to the palate and stomach. We shall therefore insert only a few of those which are best adapted to these intentions.

The management of a still being now generally understood, it is needless to spend time in giving directions for that purpose.

Cinnamon Water.---Steep one pound of cinnamon bark, bruised, in a gallon and a half of water, and one pint of brandy, for two days; and then distil off one gallon.

This is an agreeable aromatic water, possessing in a high degree the fragrance and cordial virtues of the spice.

Pennyroyal Water.—Take of penny-royal leaves, dried, a pound and a half; water, from a gallon and a half to two gallons. Draw off by distillation one gallon.

This water possesses, in a considerable degree, the smell, taste, and virtues of the plant. It is given in mixtures and juleps to hysteric patients. An infusion of the herb in boiling water answers nearly the same purposes.

Peppermint Water.—This is made in the same manner as the preceding.

Spearmint Water.—This may also be prepared in the same way as the penny-royal water.

This and the preceding are useful stomachic waters, and will sometimes relieve vomiting, especially when it proceeds from indigestion, or cold viscid phlegm. They are likewise useful in some colicky complaints, the gout in the stomach, &c., particularly the peppermint-water.---An infusion of the fresh plant is frequently found to have the same effects as the distilled water.

Rose Water.—Take of roses, fresh gathered, six pounds; water, two gallons. Distil off one gallon.

This water is principally valued on account of its fine flavour.

Jamaica-pepper Water.—Take of Jamaica pepper, half a pound; water, a gallon and a half. Distil off one gallon.

This is a very elegant distilled water, and may in most cases supply the place of the more costly spice waters.

Spirituous Distilled Waters.

Spirituous Cinnamon Water.—Take of cinnamon bark, one pound; proof spirit, and common water, of each one gallon. Steep the cinnamon in the liquor for two days; then distil off one gallon.

Spirituous Jamaica-pepper Water.—Take of Jamaica pepper, half a pound; proof spirit, three gallons; water, two gallons. Distil off three gallons.

This is a sufficiently agreeable cordial, and may supply the place of the *Aromatic Water.*

Wheys.

Alum Whey.—Boil two drachms of powdered alum in a pint of milk, till it is curdled; then strain out the whey.

This whey is beneficial in an immoderate flow of the *menses*, and in a *diabetes*, or excessive discharge of urine.

The dose is two, three, or four ounces, according as the stomach will bear it, three times a-day. If it should occasion vomiting, it may be diluted.

Mustard Whey.—Take milk and water, of each a pint; bruised mustard-seed, an ounce and a half. Boil them together till the curd is perfectly separated; afterwards strain the whey through a cloth.

This is the most elegant, and by no means the least efficacious method of exhibiting mustard. It warms and invigorates the habit, and promotes the different secretions. Hence, in the low state of nervous fevers, it will often supply the place of wine. It is also of use in the chronic rheumatism, palsy, dropsy, &c. The addition of a little sugar will render it more agreeable. The dose is an ordinary tea-cupful four or five times a-day.

Scorbutic Whey.—This whey is made by boiling half a pint of the scorbutic juices in a quart of cow's milk. More benefit, however, is to be expected from eating the plants, than from their expressed juices.

The scorbutic plants are, bitter oranges, brooklime, garden scurvy-grass, and water-cresses. A number of other wheys may be prepared nearly in the same manner, as orange-whey, cream-of-tartar-whey, &c. These are cooling pleasant drinks in fevers, and may be rendered cordial, when necessary, by the addition of wine.

Wines.

The effects of wine are, to raise the pulse, promote perspiration, warm the habit, and exhilarate the spirits. The red wines, besides these effects, have an astringent quality, by which they strengthen the tone of the stomach and intestines, and by this means prove serviceable in restraining immoderate secretions. The thin sharp wines have a different tendency. They pass off freely by the different emunctories, and gently open the body. The effects of the full-bodied wines are, however, much more durable than those of the thinner. All sweet wines contain a glutinous substance, and do not pass off freely. Hence they will heat the body more than an equal quantity of any other wine, though it should contain fully as much spirit. From the obvious qualities of wine, it must appear to be an excellent cordial medicine. Indeed, to say the truth, it is worth all the rest put together. But to answer this character, it must be sound and good. No benefit is to be expected from the common trash that is often sold by the name of wine, without possessing one drop of the juice of the grape. Perhaps no medicine is more rarely obtained genuine than wine. Wine is not only used as a medicine, but is also employed as a *menstruum* for extracting the virtues of other medicinal substances; for which it is not ill adapted, being a compound of water, inflammable spirit and acid; by which means it is enabled to act upon vegetable and animal substances, and also to dissolve some bodies of the metallic kind, so as to impregnate itself with their virtue, as steel, antimony, &c.

Anthelmintic Wine.—Take of rhubarb, half an ounce; worm-seed, an ounce. Bruise them, and infuse without heat in two pints of red Port wine for a few days, then strain off the wine.

As the stomachs of persons afflicted with worms are always debilitated, red wine alone will often prove serviceable. It must, however, have still better effects when joined with bitter and purgative ingredients, as in the above form.—A glass of this wine may be taken twice or thrice a-day.

Antimonial Wine.—Take glass of antimony, reduced to a fine powder, half an ounce; Lisbon wine, eight ounces. Digest, without heat, for three or four days, now and then shaking the bottle; afterwards filter the wine through paper.

The dose of this wine varies according to the intention. As an alterative and diaphoretic, it may be taken from ten to fifty or sixty drops. In a large dose it generally proves cathartic, or excites vomiting.

Bitter Wine.—Take of gentian-root, yellow rind of lemon-peel, fresh, each one ounce; long pepper, two drachms; mountain wine, two pints. Infuse without heat for a week, and strain out the wine for use.

In complaints arising from weakness of the stomach, or indigestion, a glass of this wine may be taken an hour before dinner and supper.

Ipecacuanha Wine.—Take of ipecacuanha, in powder, one ounce, mountain wine, a pint. Infuse for three or four days; then filter the tincture.

This is a safe vomit, and answers extremely well for such persons as cannot swallow the powder, or whose stomachs are too irritable to bear it. The dose is from one ounce to an ounce and a half.

Chalybeate, or Steel Wine.—Take filings of iron, two ounces; cinnamon and mace, of each two drachms; Rhenish wine, two pints. Infuse for three or four weeks, frequently shaking the bottle; then pass the wine through a filter.

In obstructions of the *menses*, this preparation of iron may be taken, in the dose of half a wine-glass twice or thrice a-day.

The medicine would probably be as good if made with Lisbon wine, sharpened with half an ounce of the cream of tartar, or a small quantity of the vitriolic acid.

Stomach Wine.—Take of Peruvian bark, grossly powdered, an ounce; cardamom-seeds, and orange-peel, bruised, of each two drachms. Infuse in a bottle of white Port or Lisbon wine for five or six days; then strain off the wine.

This wine is not only of service in debility of the stomach and intestines, but may also be taken as a preventive, by persons liable to the intermittent fever, or who reside in places where this disease prevails. It will be of use likewise to those who recover slowly after fevers of any kind, as it assists digestion, and helps to restore the tone and vigour of the system.

A glass of it may be taken two or three times a-day.

Preparation of the Lichen Islandicus.

The lichen islandicus has of late been much extolled as a remedy in pulmonary consumption. Not that it is supposed to possess any peculiar virtues as a pectoral medi-

cine, but is rather to be considered as a nutritious vegetable jelly, which promotes digestion by its slight bitterness, and at the same time sufficiently supports the strength, without stimulating the system; thus affording the powers of the constitution an opportunity of subduing the diseased action of the lungs. Many animals become very fat while living solely on the lichen islandicus, a proof that it affords abundant nutriment. To derive any essential benefit from the use of this article, it must constitute the sole subsistence. Persons who possess sufficient resolution to persist in such a regimen will find the lichen, prepared according to the following directions, an agreeable article of food:—

Four ounces of the lichen, cut in small pieces, are to be boiled in three pints of water, till the quantity be reduced to two. To this add a tea-spoonful of fine wheaten flour, and four ounces of refined sugar; take sixty sweet almonds, and twenty-four bitter ones, blanched; beat them into a paste, with a small quantity of water, mingle this with the decoction, and then strain through a linen cloth, previously moistened with warm water. By this process, a nutritious vegetable jelly is formed, which may be poured into moulds, or glasses, and eaten alone, or with milk. The aromatic flavour of the almonds blends itself with, and completely conceals the peculiar bitter of the lichen, and forms a very palatable, easily-digested, and nutritive aliment. A. P. B.

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