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DOMESTIC MEDICINE,

OR,

A TREATISE

ON THE

PREVENTION AND CURE OF DISEASES

BY

REGIMEN AND SIMPLE MEDICINES.

CONTAINING

A Dispensatory for the Use of Private Practitioners.



BY WILLIAM BUCHAN, M. D.

FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS, EDINBURGH.



WITH CONSIDERABLE ADDITIONS, AND VARIOUS NOTES,

BY A. P. BUCHAN, M. D.

OF THE ROYAL COLLEGE OF PHYSICIANS, LONDON, AND PHYSICIAN TO THE
WESTMINSTER HOSPITAL.



TO WHICH IS ADDED,

A FAMILY HERBAL.

A NEW EDITION,

REVISED AND AMENDED,

BY JOHN G. COFFIN, M. D.

FELLOW OF THE MASSACHUSETTS MEDICAL SOCIETY.



Boston :

PUBLISHED BY PHELPS AND FARNHAM, NO. 5, COURT STREET,
AND NATHANIEL S. SIMPKINS, CORNER OF COURT
AND BRATTLE STREETS.

1825.

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1825

DISTRICT OF MASSACHUSETTS, TO WIT:

District Clerk's Office.

BE it remembered, that on the twentieth day of October, A.D. 1825, in the fiftieth year of the Independence of the United States of America, Phelps and Farnham and Nathaniel S. Simpkins, of the said District, have deposited in this office the title of a book, the right whereof they claim as proprietors, in the words following, to wit:

“ Domestic Medicine, or, a Treatise on the Prevention and cure of Diseases by Regimen and Simple Medicines. Containing a Dispensatory for the Use of Private Practitioners. By William Buchan, M. D. Fellow of the Royal College of Physicians, Edinburgh. With considerable Additions and various Notes, by A. P. Buchan, M. D. Fellow of the Royal College of Physicians, London, and Physician to the Westminster Hospital. A new edition, Revised and Amended, by John G. Coffin, M. D. Fellow of the Massachusetts Medical Society.”

In conformity to the act of the Congress of the United States, entitled “ An act for the encouragement of learning, by securing the copies of maps, charts and books, to the authors and proprietors of such copies, during the times therein mentioned;” and also to an act entitled “ An act supplementary to an act, entitled, An act for the encouragement of learning, by securing the copies of maps, charts and books to the authors and proprietors of such copies during the times therein mentioned; and extending the benefits thereof to the arts of designing, engraving and etching historical and other prints.”

JNO. W. DAVIS,

Clerk of the District of Massachusetts.

ADVERTISEMENT

OF THE AMERICAN EDITION.

THE present edition of the Domestic Medicine is printed from the Twentyfirst London Edition, published by the author's son. In this edition, some articles of local and minor importance have been omitted, and others of more value and interest have been inserted in their place. Dr. Buchan's language was uncommonly pure and unexceptionable for the period in which he wrote. A few words, however, then in reputable use, have since become obsolete, and somewhat offensive; these, with the spelling of some others, have been so changed as to keep pace with the present improved state of our language. For the general character and success of this work, the reader is referred to the author's Advertisement and Preface.

The author's instructions for the management of infants and children, are particularly valuable. *Prevention* is always better than *cure*; for the latter involves pain, suffering and loss, even when practicable,—besides its being frequently unattainable by the best means in our power.

A knowledge of the most frequent causes of disease, and of the means of counteracting these causes, should everywhere constitute a part of education. This information, which is indispensable to the wellbeing of the individual, might be attained for much less expense of time and money, than the cost of many superficial and temporary acquirements, which are worth little or nothing to the possessor.

To the present edition is added an Herbal, a Glossary of medical terms, and some other articles, which the reader will readily perceive. The great object of the A. E. has been to render the work of Dr. Buchan, more useful. How far he has succeeded, he must leave others to judge.

Some of the additions made by the A. E. are marked C.

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TO THE PUBLIC.

AN instance of a work on the science of Medicine having attained the TWENTY-FIRST EDITION of a series of large impressions, is, I believe, without a parallel in the annals of literature. This fact furnishes a decisive proof, that the DOMESTIC MEDICINE, notwithstanding the many attempts to supplant it by medical publications on a popular plan, still continues to be deemed by the public a valuable and useful book.

Public opinion is, perhaps, the best criterion of general utility. Under the sanction of this opinion, I consider it as my peculiar duty to endeavor, by every means in my power, to maintain the claim of this work to a continuance of that general approbation, with which it has, for a period of more than forty years, been eminently distinguished.—I, therefore, willingly embrace the opportunity now presented to me, of making such additions as may, in some measure, tend to keep the general spirit of this work on a level with the improvements, which are daily taking place in the science of medicine.

Of some complaints 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 and place.

Additions to other articles, of inferior importance, will also be found under their respective heads.

Various affections of the lungs, comprized 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 more extensive experience. They will not, therefore, I trust, be considered as misplaced in a work, which is not less immediately directed to the prevention, than to the cure, of disease. To distinguish the new matter from the original work, I have thought it

right to mark these additions, whether occurring in the text, or in form of notes, with the initials of my name.

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 melioration 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*.

That his writings should have contributed in the most remote manner to the formation of establishments emanating from that spirit of charity for which England is renowned among the nations of the earth, must afford the sweetest consolation to the mind of the benevolent author; should he now, indeed, retain any consciousness of, or take any interest in the affairs of this world: and his surviving offspring may be allowed to derive their *sole* comfort for the loss of an affectionate and beloved parent, from indulging a hope, that "his works may have followed him."

ALEXANDER P. BUCHAN.

PERCY STREET, LONDON, }
JUNE, 1813. }

Omnes homines artem medicam nōsse 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.

TO

SIR JOSEPH BANKS, BART.

PRESIDENT OF THE ROYAL SOCIETY.

SIR,

THE DOMESTIC MEDICINE having been honored, on its first appearance, with the patronage of your learned and worthy predecessor, the late Sir JOHN PRINGLE, I beg leave, in a more improved state, to dedicate it to you, as a small, but sincere testimony of that veneration and esteem, with which I have long beheld the man, who, born to ease and affluence, had resolution to encounter the dangers of unknown seas and distant climates, in pursuit of useful science; and whose constant object has been to render that science subservient to the happiness and civilization of society.

I have the honor to be, with great respect,

Sir,

Your most obedient servant,

W. BUCHAN.

LONDON, Nov. 10, 1783.



ADVERTISEMENT

TO THE EIGHTEENTH EDITION.

THE learned and elegant Arbuthnot seems to have thought it a matter of no small complaint, that an author, after having written a book, should be obliged to write another to explain it. Yet, in the discussion of subjects which immediately concern the health and happiness of the human species, it is of importance to leave nothing obscure or doubtful, but to place every truth in so strong and clear a light, as to prevent the possibility of the least misconception or mistake.

Besides, with whatever industry and exactness a medical writer may prepare his first essays for the public eye, he will find in the course of further practice, many things to correct, others to illustrate, and, perhaps, some valuable discoveries to introduce. The art or science, of which he treats, is in a perpetual progress to perfection. If his writings do not breathe the same spirit, it is plain that he is either too proud to retract former errors, or too indolent to avail himself of new observations and experiments.

As *gratitude* also is supposed to be a greater spur to exertion than even *reason* itself, I have a still more powerful motive than any of the preceding, for using my best endeavors to make every new edition of this work more worthy of the public favor. It has met with the most flattering reception in every part of the British empire; and some writers of the first medical eminence in Europe have enlarged the sphere of its popularity, by translating it into the languages of their respective countries. I feel the full force of so strong an incitement to redouble my efforts, and, as far as I am able, to make improvement keep pace with the rapid extension of such liberal patronage.

But while my warmest acknowledgments are due to my generous friends, I must not omit taking notice of some obligations I am under to my adversaries also. On my first attempt to give a familiar form to medical advice, and to explain what every body ought to know, in language which every body could understand, envy, selfishness, and arrogance took the alarm. All the stores of malignant invention were exhausted, to blacken the character of the author, to lower the public opinion of his integrity, as well as of his talents, and totally to destroy his pretensions to honest fame. I thank those gentlemen for having taken so much pains to excite attention to my book; and hope

they will not think this expression of my gratitude ironical, when I assure them, that the sale of above a hundred thousand copies of this work has not been less promoted by their illiberal abuse, than by the kindest testimonies of applause.

There is another description of persons, whom I cannot treat with so much pleasantry, as they have left no means untried to make the credit of my book subservient to their private interest, at the expense of both my fame and fortune—I mean the invaders of literary property, who first endeavored to mutilate, mangle, and disfigure the work, in hopes of being able to conceal their fraud, and give the pirated jumble some appearance of originality by a little alteration of the title-page, and a string of prefatory falsehoods.* Having completely failed in a great number of these attempts, they now have recourse to a still more shameless mode of proceeding, and pretend to publish the "DOMESTIC MEDICINE" itself, with bold claims to considerable *improvements!* A single glance, however, is sufficient to detect the flimsy artifice.

In order to evade the law, by acting under the sanction of an old statute for limiting the period of copyright, they have reprinted the *early copies* of my book, published between thirty and forty years ago, which, to say nothing of inaccuracies, did not contain above half the matter inserted in the later editions. Thus they have in reality suppressed what I had been constantly endeavoring to correct, improve, and enlarge. Foreseeing, however, that, in consequence of all these omissions, the size of the book, when compared with mine, would expose the deception even to persons incapable of examining the contents, they increased the bulk of the volume by additions, which betray an ignorance, not only of medicine, but of language.

It is not likely that any great impression can be made on such characters by the force of ridicule, else I should compliment them on their extreme modesty in taking out of the hands of an author, whom they professed to admire, the right of improving his own works. They wished, no doubt, to relieve him from the trouble. Their generosity went still further, and made them affix his name to their curious researches, and to the novel beauties of their style, which adorn and illustrate every page. He may, indeed, think them *too civil by half*, in placing their mistakes to the same account, and inducing the public to rely on every thing supposed to come from him, though pregnant with the greatest danger.

I should also pay due praise to the legal shrewdness of these gentlemen, in laying hold of the most imperfect editions of my book, and leaving out all the subsequent remarks, rather than violate the laws of their country. As to the infringement of property, or the injury which the reputation of the author might sustain from his being made responsible for their blunders, the old statute they consulted, being silent on these points, led them to conceive that they had a right to

* "Like Gipsies, lest the stolen brat be known,
"Defacing first, then claiming for their own."

publish, under the sanction of his name, the injudicious compilations of any unfortunate hireling.

It is not very easy to put me out of humor. I am much more inclined to amuse myself and the reader with laughable strictures on such frauds and follies. It would be no difficult matter, however, were the subject to be seriously treated, to show how inconsistent it is with common sense and common justice, that property acquired by the labor of the hand should be more permanent or better protected, than that which is derived from the labor of the head. Yet the one is perpetual and well secured, while the other is confined to a very short period, and left almost defenceless. In vain does the man of genius endeavor to impress on his works the stamp of immortality: if he lives but a few years, he may see them cut to pieces, without any means of redress, and his very name made use of to give currency to the most contemptible forgeries.

The affection of a parent for a darling child has often been used to illustrate an author's fond attachment to his writings. What then must be the emotions of the latter, when he finds a changeling substituted for the genuine offspring of his brain, or sees, as it were, his mental progeny stripped of their rights and honors by the spurious issue of a pretender!

When we consider this matter in another light, and make a fair estimate of the time and money expended in the cultivation of such talents as may qualify a man to write for the instruction, or the rational entertainment of society, we shall be struck with the injustice of robbing him of the fair fruits of his labor. Small as his emoluments may be, they are not sufficiently guarded by law. The acts relative to this subject were made when literary property was not deemed of much value, and consequently little care taken to secure it. They should therefore be revised; for while the exact letter of the law protects the property of authors only for a short term of years, it is not in the power of a judge, however upright, to give ample redress of any wrong done them afterwards. Every author ought to retain an exclusive right in his own compositions during his natural life at least; and, perhaps, were the question to be brought before the tribunal of reason, no satisfactory cause could be assigned, why the advantages which we derive from the gifts of heaven, ought not to descend to our posterity, as well as revenues arising from gifts of the crown.

I cannot conclude, without informing the public, that, besides the corrections and improvements, I have enlarged the present edition by the introduction of above a hundred pages of new matter, including a complete chapter on Sea Bathing, and the Use of the Mineral Waters, which will enable every purchaser of this work easily to distinguish the genuine from spurious and imperfect copies, and probably save the health and lives of numberless individuals from being made the sport of unprincipled impostors.

W. BUCHAN.

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 unfavorable 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 honor 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 endeavored 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, where 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 these 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 these 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 practice, for several years, in one of the largest manufacturing towns in England, afforded me sufficient opportunities of observing the injuries, which these 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 unfavorable 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 on their guard against them. It is always better to be warned of the approach of an enemy, than to be surprized 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 an 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 endeavored to point out the causes of diseases, and to put people on 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, burying the dead out of town, &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 on medi-

cine, and trust too little to their own endeavors. It is always in the power of a 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 medicine are often frustrated; and the patient, by pursuing a wrong plan of regimen, not only defeats the doctor's endeavors, 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 honor 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 this 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 a 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 in general adopted their observations where my own were either defective or totally wanting. Those to whom I am most obliged are, Ramazini, Arbuthnot, and Tissot; the last of which, in his *Avis au Peuple*, comes the nearest to my views of any author whom 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 on the patient's own endeavors. 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 honor 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 endeavored to render this treatise plain and useful, yet I found it impossible to avoid some terms of art; but these are in general either explained, or are such as most people understand. In short, I have endeavored 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 endeavored 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 expectations 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 endeavors of the faculty.

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 honor of medicine, or to raise their own importance, have endeavored 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 on 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 these bloody disputes; and every gentleman, that he might distinguish himself on one side or the 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. Anatomy, 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 cockleshells.

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 every thing 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, every where 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 honor, of mankind, to have some check on 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

* Observations on the Duties and Offices of a Physician.

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 favorite hypothesis.

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

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 would indeed 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. While 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 humors of men must be regarded by those who mean to do them service; but this can never effect the general argument in favor of candor 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 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, would 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 benefit 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 endeavors, 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 every where 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, any where 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 praiseworthy 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 flee 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 rewarded!

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 wellmeant endeavors 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 impostors; 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

* Arbuthnot.

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 endeavors 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 labor very well bestowed.

PART I.

OF THE GENERAL CAUSES OF DISEASES.

CHAP. I.

OF CHILDREN.

THE better to trace diseases from their original causes, we shall take a view of the common treatment of mankind in the state of infancy. In this period of our lives, the foundations of a good or bad constitution are generally laid; it is therefore of importance, that parents 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 surprize 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 this purpose: these will always endeavor 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.

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 surprized to find some of them unable to perform this 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 this 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,

* I have known an hysteric woman kill her child, by being seized with a fit in the night.

† 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 lose many of their 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 on the same milk.

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 this 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 this 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.*

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,

* 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 committed 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.

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 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 surprized 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 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, chil-

dren 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 labor 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 surprized, 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 further 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

* 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 to cure, as those of adults.

† Rousseau.

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 rivetted 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 to inherit his father's fortunes at the expense of inheriting his diseases!

A person laboring 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 connexions for life, has rooted out more families than plague, famine, or the sword; and as long as these connexions are formed from mercenary views, the evil will be continued.*

In our matrimonial contracts, it is amazing that 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 on 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; but 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 cir-

* 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, forbidden to have any manner of commerce with the diseased; and, indeed, to this all wise legislators ought to have a special regard. In some countries, diseased persons have actually been forbidden to marry. This is an evil of a complicated kind, natural deformity, and a political mischief; and therefore requires a public consideration.

sumspect 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.

OF THE CLOTHING OF CHILDREN.

THE clothing of an infant is so simple a matter, that it is surprizing 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 for an infant, but to keep it warm. All that is necessary for this purpose, is to wrap it in a 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 taken 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 labor 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 would 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 on 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 endeavors 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 manacling 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 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 *fetus* everywhere with fluids. This shows the care which nature takes to prevent all unequal pressure on the bodies of infants, and to defend them

* A friend of mine, who was several years on the coast of Africa, tells me, that the natives neither put any clothes on 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.

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 birth as others, but 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 surprized that

* 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.

so many children die of convulsions soon after the birth. These fits are generally attributed to some inward cause; but, in fact, they 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, on 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 this 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 the 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 humor 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*; and in winter the clothes should be made of non-combustible materials.

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 favor 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 on 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 preserve the health of children. It promotes the perspiration, and, by this means, frees the body from superfluous humors, 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 endeavoring 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.

* 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*.

cary'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 things given to a child should be drugs. This is beginning with medicine by times, 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 on 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.

On 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 on it. Children require very little 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 humors.

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 gumstick. 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 further 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 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 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 endeavoring to shun this 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 smokedried 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, buttermilk, 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 acri-

mony of the humors. This is what most children require; only care should be taken lest they exceed. Indeed, the best way to prevent children from going to excess in the use of fruit, or eating that which is bad, is to allow them a proper quantity of what is good.*

Roots which contain a crude viscid juice should be sparingly given to children. They fill the body with gross humors, and tend to produce eruptive diseases. This caution is peculiarly necessary for the poor; glad to obtain, at a small price, what will fill the bellies of their children, they stuff them two or three times a day with crude vegetables. Children had better eat a smaller quantity of food, which yields a wholesome nourishment, than be crammed with what their digestive powers are unable properly to assimilate.

Butter ought likewise to be sparingly given to children. It both relaxes the stomach, and produces gross humors. Indeed, most things that are fat or oily have this effect. Butter when salted becomes still more hurtful. Instead of butter, so liberally given to children in most parts of Britain, we would recommend honey. Children who eat honey are seldom troubled with worms; they are also less subject to cutaneous diseases, as itch, scabbed head, &c.

Many people err in thinking that the diet of children ought to be altogether moist. When children live entirely on slops, it relaxes their solids; renders them weak, and disposes them to the rickets, the scrofula, and other glandular disorders.

Relaxation is one of the most general causes of the diseases of children. Every thing, therefore, which tends to unbrace their solids, ought to be carefully avoided.

We would not be understood by these observations as confining children to any particular kind of food. Their diet may be frequently varied, provided always that sufficient regard be had to simplicity.

OF THE EXERCISE OF CHILDREN.

OF all the causes which conspire to render the life of man short and miserable, none has greater influence than the want

* Children are always sickly in the fruit season, which may be thus accounted for:—Two thirds of the fruit, which comes to market in this country, is really unripe; and children, not being in a condition to judge for themselves, eat whatever they can lay their hands on, which often proves little better than a poison to their tender bowels. Servants and others, who have the care of children, should be strictly forbidden to give them any fruit without the knowledge of their parents.

of proper EXERCISE: healthy parents, wholesome food, and proper clothing, will avail little, where exercise is neglected. Sufficient exercise will make up for several defects in nursing; but nothing can supply the want of it. It is absolutely necessary to the health, the growth, and the strength of children.

The desire of exercise is coeval with life itself. Were this principle attended to, many diseases might be prevented. But, while indolence and sedentary employments prevent two thirds of mankind from either taking sufficient exercise themselves, or giving it to their children, what have we to expect but diseases and deformity among their offspring? The rickets, so destructive to children, never appeared in Britain till manufactures began to flourish, and people, attracted by the love of gain, left the country to follow sedentary employments in great towns. It is amongst these people that this disease chiefly prevails, and not only deforms but kills many of their offspring.

The conduct of other young animals shows the propriety of giving exercise to children. Every other animal makes use of its organs of motion as soon as it can, and many of them, even when under no necessity of moving in quest of food, cannot be restrained without force. This is evidently the case with the calf, the lamb, and most other young animals. If these creatures were not permitted to frisk about and take exercise, they would soon die or become diseased. The same inclination appears very early in the human species; but as they are not able to take exercise themselves, it is the business of their parents and nurses to assist them.

Children may be exercised various ways. The best method, while they are light, is to carry them about in the nurse's arms.* This gives the nurse an opportunity of talking to the child, and of pointing out every thing that may please and delight its fancy. Besides, it is much safer than swinging an infant in a machine, or leaving it to the care of such as are not fit to take care of themselves. Nothing can be more absurd than to set one child to keep another; this conduct has proved fatal to many infants, and has rendered others miserable for life.

When children begin to walk, the safest and best method of leading them about is by the hands. The common way, of swinging them in leading strings fixed to their backs, has several bad consequences. It makes them throw their bodies for-

* The nurse ought to be careful to keep the child in a proper position; as deformity is often the consequence of inattention to this circumstance. Its situation ought also to be frequently changed. I have known a child's legs bent all on one side, by the nurse carrying it constantly on one arm.

ward, and press with their whole weight on their stomach and breast; by this means the breathing is obstructed, the breast flattened, and the bowels compressed; which must hurt the digestion, and occasion consumptions of the lungs, and other diseases.

It is a common notion, that if children are set on their feet too soon, their legs will become crooked. There is reason to believe that the very reverse of this is true. Every member acquires strength in proportion as it is exercised. The limbs of children are weak indeed, but their bodies are proportionably light; and had they skill to direct themselves, they would soon be able to support their own weight. Whoever heard of any other animal that became crooked by using its legs too soon? Indeed, if a child is not permitted to make any use of its legs till a considerable time after its birth, and be then set on them with its whole weight at once, there may be some danger; but this proceeds entirely from the child's not having been accustomed to use its legs from the beginning.

Mothers of the poorer sort think they are great gainers by making their children lie or sit while they themselves work. In this they are greatly mistaken. By neglecting to give their children exercise, they are obliged to keep them a long time before they 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, obstruc-

* 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.

tions must happen, and the humors 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 further 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 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 schoolmaster 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 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

* 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 parental 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.

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 if such hotbed 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 on 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 them when they come to be mothers. Women, who have been early accustomed to a

* 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 vigor of body, would have many other happy effects.

sedentary life, generally run great hazard in childbed; 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 needle work, 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 labor. 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 favorable to the health of its inhabitants. Good policy would therefore require, that such people as labor 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 labor 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 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 dipped in the water on the child, and either put it to bed, or suffer it to go about in this condition. Some believe, that the whole virtue of the water depends on 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 this remedy are often frustrated.

* 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.

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 ON 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 deli-

cate, 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 hothouse, 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, vigor and magnitude, which they would have acquired in the open air, nor would they be able to bear it afterwards, should they be exposed to it.

Children brought up in the country, who have been accustomed to open air, should not be too early sent to great towns, where it is confined and unwholesome. This is frequently done with a view to forward their education, but proves very hurtful to their health. All schools and seminaries of learning ought, if possible, to be so situated, as to have fresh, dry, wholesome air, and should never be too much crowded.

Without entering into a detail of the particular advantages of wholesome air to children, or of the bad consequences, which proceed from the want of it, I shall only observe, that of several thousands of children, which have been under my care, I do not remember one instance of a single child, who continued healthy in a close, confined situation; but have

* 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,

often known the most obstinate diseases cured by removing them from such a situation to an open, free air.

OF NURSES.

It is not here intended to lay down rules for the choice of nurses. This would be wasting time. Common sense will direct every one to choose a woman who is healthy, and has plenty of milk.* If she be at the same time cleanly, careful, and goodnatured, she can hardly fail to make a proper nurse. After all, however, the only certain proof of a good nurse, is a healthy child upon her breast. But, as the misconduct of nurses often proves fatal to children, it will be of importance to point out a few of their most baneful errors, in order to rouse the attention of parents, and to make them look more strictly into the conduct of those to whom they commit the care of their infant offspring.

Though it admits of some exceptions, yet we may lay it down as a general rule, *That every woman who nurses for hire should be carefully looked after; otherwise she will not do her duty.* For this reason, parents ought always to have their children nursed under their own eye, if possible; and where this cannot be done, they should be extremely circumspect in the choice of those persons to whom they intrust them. It is folly to imagine that any woman, who abandons her own child to suckle another, for the sake of gain, should feel all the affections of a parent towards her nursling: yet so necessary are these affections in a nurse, that but for them the human race would soon be extinct.

One of the most common faults of those who nurse for hire, is dosing children with stupefactive, or such things as lull them asleep. An indolent nurse, who does not give a child sufficient exercise in the open air to make it sleep, and does not choose to be disturbed by it in the night, will seldom fail to procure for it a dose of laudanum, paregoric, diacodium, saffron, or, what answers the same purpose, a dose of spirits or other strong liquors. These, though they be certain poison to infants, are every day administered by many who bear the character of very good nurses.†

* I have often known people so imposed on, as to give an infant to a nurse to be suckled, who had not one drop of milk in her breast.

† 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.

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 help 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 endeavoring 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, Daffy'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 scrofula, rickets, and other diseases. A dirty nurse is always to be suspected.

Nature often attempts to free the bodies of children from bad humors, 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 astring-

gents, 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 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 an 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.*

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,

* Armstrong.

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 Arrowroot, 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!

‘ON THE MANAGEMENT OF INFANTS.

THE object of these remarks is to discountenance the application of cold water to newborn infants. If the children, who are born in cold climates, could be so reared as to rise above the influence of severe and variable weather, they would acquire the highest attainable security for health and longevity.

This is the great purpose of physical education. But how is this desirable object to be accomplished?

Not, on the one hand, by an attempt to withdraw ourselves from those atmospheric changes, which, in this country, we are destined to encounter; nor, on the other, by disregarding the effect of habit, to rush unprepared from one extreme of temperature to the other. We can triumph only by such frequent, *gradual*, and habitual contests with our enemy, as shall enable us either to evade or surmount his assaults.

But, that I may assign a reason for rejecting the practice opposed, permit me, in a few words, to consider the nature and effects of cold water. Setting aside an examination of this agent, as a *remedy* in diseases, I know but two ways in which

it can improve health or prevent sickness,—that is, in which it can be beneficially used by the well.

The first mode is, where cold is applied to counteract a degree of heat, which is injurious from its excess; the second is, when it is so used as to give strength,—to invigorate the feeble operations of a sound body. Presuming this view of the subject to be just, let me inquire, what effect the application of cold water to the bodies of newborn infants is likely to produce. It cannot act beneficially by diminishing excessive heat; for this does not exist. The question then occurs, can it be useful in the other mode of its operation?

Immersion in cold water, or its affusion over the body, is attended with three distinct effects,—an instantaneous and powerful shock, a sudden abstraction of heat from the surface of the body, and that exertion of vital energy to counteract the shock, and to restore the lost heat, which is termed reaction. The practice, therefore, is never safe, pleasant, or salutary, unless it so affects the system as to be followed by this return of blood and warmth to the skin, with grateful sensations and sensible refreshment.

That these good effects may be secured, the water should be sufficiently cold, and extensively and expeditiously applied.

If these circumstances are disregarded, the effects, on the contrary, will be irksome and hazardous. Now the washing of infants with cold water is conducted in this manner: The nurse, as if apprehensive of doing mischief, though wedded to her error, applies the water partially and sparingly, here a little and there a little, but nowhere in sufficient quantity for the purposes of cleanliness or health, provided the fluid were of the proper temperature. This scanty application of the water, has, I know, been called prudence, and distorted into an argument in favor of the practice; but it ought to be called, what it is, an absurdity, because the water, if suitably attempered, ought to be used *more freely*, and if not of the right temperature, it ought not to be used at all.

Important and desirable as it is, that children, in northern climates, should be rendered hardy and familiar with cold air and cold water, it should never be forgotten, that this firmness and security can only be obtained by slow and cautious advances.

The washing and dressing of infants, with their necessary exposure to the air, constitute a sufficient commencement of the *seasoning* regimen for the first three months, during which the water should not be suffered to communicate any sensation of cold. The only exception to this rule is, where the child is

oppressed with atmospheric heat, in which case the water should be *pleasantly* cool only.

From this period, if the infant be well, and the weather not cold, the temperature of the water may be gradually lowered, so that, at the end of six months, if this be in summer, cold water may be used; that is to say, water not artificially heated. Shall the mother impose on her tender infant a severity, which she herself would shudder to encounter when in health?

What would the never-doubting nurse think, if the harsh expedient were prescribed for herself, which, with equal want of judgment and feeling, she practices on her helpless charge? There is no period of life, nor any condition of health, in which this use of cold water is so unseasonable, so dangerous, and, I may truly say, so cruel. That so abrupt a change as this is unseasonable or unnatural, will appear from a consideration of the operations and provisions of nature.

The freezing blasts of winter do not at once succeed the fervid heat of summer: the cooling breezes of autumn are interposed, to admonish the vegetable world of the decline of the year, and the progress of the seasons.

Among the lower animals, also, the same precautions are observed. Birds protect and defend their tender young by their nests, the warmth of their bodies, and shelter of their wings. Other animals act on the same plan, in conformity to their different habits and varying resources.

It is for man only to disregard a principle, which we should think *reason* would easily recognize and promptly obey.

That this practice is full of danger to the wellbeing of the infant, will not so readily be admitted, because it will be said, that many children have done well under it. In reply, I contend, that its tendency is always unfavorable.

It is true, that many infants have indeed survived very improper and unkind treatment; but this, surely, is no defence or recommendation of such treatment, any more than the advanced age of certain intemperate and irregular individuals can recommend or justify their mode of life.

The infliction of useless pain is tyranny, and this practice wants nothing but a malignant intention to be such; while the injury is not the less severe on the innocent sufferer.

But so far as this custom arises from a degree of ignorance or prejudice, which might be removed by a disposition and efforts to obtain just views of the subject, it is blameable and cruel.

On the last day of January, 1816, I found a little patient, three days old, under the cold ablution. She had been previously well and quiet. Her loud and piercing shrieks now drew

me to her apartment. On ascertaining the cause of her outcries, I desired the nurse to make the water at least lukewarm for the future. Her self-complacency was evidently much disturbed, and her assumed prerogative almost unpardonably infringed.

She complied with the worst grace possible, declaring, that this was the second request only of the kind, that had ever been made to her during a long period of many years' employment. This assumption of nurses is not exclusively their own fault. Too many mothers consult them as oracles, and obey them with an entire surrender of their own judgment. This led me to inquire, how prevalent a custom might be, which I had rarely witnessed in twenty years' business, and which I had never approved.

Of seven accoucheurs, whom I consulted in this town,

1 was indecisive;

1 left the matter to the mother and nurse;

2 used cold water soon after birth;

2 disapproved of it; and

1 said, that infants generally lived, whether washed in warm or cold water, and seemed quite indifferent, which was preferred;

4, of an equal number of nurses, always used warm water, unless desired to do otherwise;

3, when left to themselves, used cold water, after the first washing, without any regard to the season of the year. From this it appears, that physicians do not always do their duty, and that mothers and nurses are not to be trusted in this matter, without watching.

I do not find any writer on the diseases or management of infants, who recommends this practice.

Buchan and Underwood, two of the best authors on this subject, speak of the practice in question in terms of just reprehension.

I shall close these few remarks, which might be easily extended, by advising mothers to read Dr. William Buchan's "Advice to Mothers." This will, in some good measure, enable them to prevent the mischief, which is daily arising from the negligence of physicians, ignorance of parents, and the rashness of nurses.

Here my remarks ended, and I sent them to a medical friend to read. He has expressed a wish, that I had spared the censure on the nurses, observing, that they derive the practice in question from medical authority, and for himself, that he had not suspected any injury from it. No one is more inclined than I am fully to estimate the value of good nurses, and to re-

OF CHILDREN.

spect them, or more ready to believe that many such exist. Within the week past, I have detected enough of hypocrisy in a worthless one, long to induce me to appreciate highly those, who labor to understand and perform their duty.

I would blame and repress only that arrogance and selfishness, which prompt some much sooner to invade the province of the physician, than to be useful in their own, rather to impose on the mother, and neglect the infant, than to serve the one, or take proper care of the other. I would persuade mothers, that, if they will exercise their own understanding, they will be quite as likely to comprehend a matter of common sense, as the despotic leaders of the nursery, who, in their turn, are too often guided by nothing better than the blind maxims of unthinking tradition.

However this chilling practice may have arisen, its effects, if injurious, as I apprehend them to be, are not the less to be regretted on that account. If, in truth, it has originated from a medical source, it would seem to be peculiarly proper, that those guardians of the public health, who think unfavorably of it, should expose and renounce it, that the improvements of each succeeding generation of physicians may repair, as far as possible, the defects of their predecessors.

With regard to those subjects, which divide the profession, the individual cannot do better than to study them with an open mind, till he can discover the side of preference; to take his sentiments from the dictates of reason, observation, and experience, and to pursue that practice, which directs him with the greatest certainty to the comfort and security of the well, and the restoration of the sick. It has been said, or I have imagined, that on some topics we do not rest on the line of truth till we have digressed from it in various directions, have perceived our distance from it, and have felt our need of its support.

If this be true, it only shows the advantage of entering early on the route of discovery, that we may arrive at certainty in good time to make our knowledge useful. The determination not to change, is becoming only to infallible minds. No opinion should be held too dear to be relinquished for a nearer approximation to truth than the ground we may occupy. In the mean time, the highest authority which any man can acknowledge as qualified to govern his conduct, must be those convictions of his own mind, which he knows to be honestly, and which he believes to be correctly formed. J. G. C.

CHAP. II.

OF PHYSICAL EDUCATION IN CONNEXION WITH INTELLECTUAL AND MORAL CULTURE.

This chapter consists of an extract from a discourse on this subject, read by the American editor.

IF any thing is important, within the scope of human ability and obligation, it is the business of education ; but as education creates nothing, its proper efforts are necessarily limited to the work of unfolding, exercising and improving the material organs, and the intellectual and moral capacities which nature produces.

This primary and obvious truth is worth remembering, because some of the friends of human improvement have failed in their benevolent purposes, in consequence of having attempted what is impossible ; while the more common cause of failure is the opposite fault, of attempting too little.

The compound human being is made up of an animal, a moral, and an intellectual constitution,—all equally and essentially important in themselves considered, and in their mutual relations and reciprocal influence on each other.

Hence, no man is well educated, whose *corporeal system*, whose *head*, or whose *heart* is neglected.

The head, indeed, may be furnished, and the heart well disposed, but we still want a hand to execute ; and so of the rest. One great defect in our schools is, that the body is disregarded, no provision is made for securing any of those privileges, advantages, or enjoyments, which originate from a hardy, well disciplined body ; and we have to regret, that so long as this is the case, moral and intellectual culture can never be perfect,—never so good as each would be rendered in connexion with physical education.

It is by the influence of the living power inherent in every part of the body, that all the animal and vital functions of the system are performed, that all voluntary motion takes place, and that every faculty of the mind is exerted.

The two principal means, by which the living power is constantly expended, are *sensation* and *motion*, the former being the property of the nervous, and the latter of the muscular system. In man, also, the faculties of the mind depend on the same principle for their exertion ; and, in health, the supply is

adequate to the performance of all the requisite functions, both corporeal and mental.

What then, let me ask, do we need from education? We want bodies temperate, powerful, adroit,—patient and enduring in privation and suffering,—irresistible in action; minds stored with useful and practical knowledge, and in their place and proportion, with the ornamental attainments; hearts inclined to estimate and prefer pursuits and possessions according to their respective and intrinsic value. But these happy results are not to be had without being sought, and sought too in the right direction. What would be the character and condition of a people, whose individuals were all thus educated?

How far our present modes of instruction are suited to form such a people, and how much better they might be made, every one is at liberty to consider and decide for himself.

In the mean time it cannot be doubted, that happiness is the great and ultimate design of human existence, and, consequently, that that education is the best, which gives us, at once, the highest capacities for enjoyment, and the most effectually qualifies and disposes us to contribute to the happiness of others.

Men do not execute, except by accident, any better than they think, but they do ordinarily execute well, in a proportion, more or less direct, to the justness of their conceptions, or to the perfection of any given model for imitation. Hence the advantage of possessing clear and accurate notions of any system of operations, which we are concerned to perform in the best manner.

So long as our theory of education remains defective, we need not be surprized at imperfect results, and disappointed hopes.

If these views of human nature and human wants are well founded, our plans of education should embrace corporeal, as well as mental and moral improvement. These inseparable parts should form a whole, each division of which should go on with the other two, day by day, and year by year, in exact harmony and proportion. When the objects and means of education shall be accurately and generally understood, many intelligent and faithful parents will be enabled and encouraged to do much for their children, before they leave home; and what is once well done need not be undone at any subsequent period, but will serve as the basis of future eminence and success.

We must look to the gymnasium as the only means capable of supplying the great chasm in our seminaries of instruction. This includes a building, with the instruments and surrounding

space, sufficient for the performance of all the paestrie exercises.

The gymnastic art embraces all the rules required to unfold the various organs and structures of the animal mechanism; to improve and perfect their agility, suppleness and stability; to preserve or restore health, and at the same time to develop the physical and mental faculties.

If these be the well known effects of the ancient gymnasiums, it is not a little remarkable that, for centuries after the intellectual and heroic ages of Greece and Rome, during which the gymnastic discipline formed so essential a part of education, the systematic training of the body should have been entirely lost in modern Europe, if we except only the last twenty or thirty years. And even since the revival of athletic sports on the continent, England has almost confined her taste to the elegant and noble game of cricket, and to the brave but brutal practice of boxing.

One or two years ago the system of Capt. Clias, principal of the Gymnastic Academy in Berne, was, indeed, patronized by the commander in chief of the British army, and by his order introduced at the Royal Military Asylum at Chelsea; where, under the superintendence of a Capt. C., the numerous boys of this excellent institution have been practising all these exercises with the best effect, according to the report of the medical officers of the establishment. Children hate to be idle. All the care then is, says Mr. Locke, that their busy humor should be constantly employed in something safe, and likely to be of use to them. Those who have had the educating of children have generally confined their attention to the moral and intellectual parts of it. In England, children rush out of school and play with pegtop or marbles, or hopscotch, which can be of no use to them in after life; for these amusements teach nothing, and lead to nothing. It is no better with us. Swimming, running, skating, jumping, climbing, wrestling and many other sports, promote immediate gratification, invigorate the muscles of the body, and are likely to be called into action for the purposes of personal safety in future life. Mere relaxation of the mind, desirable and necessary as it is, is not alone sufficient; and when boys are left entirely to the invention of their own recreations, nothing else is considered but this mere relaxation; while the promotion of health, vigor, courage, elasticity, and graceful action, are accidental circumstances, which may, or may not be, connected with their sports.

Much, therefore, is to be *taught* in these, as in other matters. For ourselves, we have not yet recognized the gymnasium as

worthy of any attention; still less have we imagined it capable of elevating the national character. And yet no one, who is qualified to form a just estimate of its influence, will hesitate to believe, that, added to our existing institutions, it would give us, what we can derive from no other source, Roman bodies, Athenian minds, and American hearts.

Could the natural effects of these graduated and well adapted exercises be fully and generally secured, with the other branches of general education, they would give us, in the short space of thirty years, such a race of men and women as have not yet appeared on this earth.

And where can the experiment be better made than here?

Our rulers are a part of ourselves; whatever with us constitutes the security, the regulated freedom, the wants and well-being of the subject, is no less a part of the individual wants and wishes of our magistrates. No institution of nature is more evident than the necessity of the actual exercise of the animal, as well as of the rational, existence, for the improvement of both, and for maintaining them in a healthy state.

A due degree of labor strengthens, and even multiplies, muscular fibres; and the want of it produces various chronic diseases, not only of the muscles themselves, but of every organ and function of the animal frame.

The healthy and vigorous action of the muscular fibres of one organ, communicates firmness and strength to another. The action of the stomach, for instance, required to subdue hard articles of nourishment, imparts firmness and energy to the voluntary muscles, which the same alimentary matter, in a soft or fluid form, does not give.*

The first gymnastic school, which appeared in Europe, since the decline of the Roman empire, was that of Mr. Saltzmann, in Saxony, in the year 1786. Since this period, gymnasia have been established in Sweden, Denmark, Prussia, Germany, Switzerland, Spain and France. It was in Denmark that gymnastic exercises were first considered in a *national* point of view; and in 1803 the number of these establishments in that country had already amounted to fourteen, to which three thousand young men resorted. Since this time the government have issued an order for allotting a space of two hundred square yards to every public school, for the purpose of gymnastic exercises. In 1810, the gymnastic institution of Berlin was placed under the direction of Jahn; through whose zeal and perse-

* Blane's Medical Logic, p. 132.

verance a taste for manly sports has been widely diffused over Germany.

Capt. Clias is professor of gymnastics in Berne; and he says, that he has superintended the physical education of two thousand pupils, not one of whom ever experienced the slightest accident.

Very recently, the Prussian government have directed gymnastic exercises to be introduced into every school in the kingdom, as forming an essential part of education. The teachers of this system, in various parts of Europe, have at length reduced to practice, and confirmed by the most perfect success, the beautiful theories long since conceived by the most enlightened and benevolent individuals. The gymnastic domain is unlimited; it takes charge of the individual from infancy, and, like a vigilant mother, conducts him through all the stages and aspects of life; and, even when near its close, does not forsake him; but, with a generous hand, holds out to him the treasures of hope, and opens to his view the prospect of protracted years without infirmity. The production of sound, well formed, and vigorous bodies is not the only good fruit of the gymnastic discipline; it is also a powerful means of promoting health, of preventing, and of curing diseases.

At this epoch, when the vaccine preventive is increasing the probability of life, gymnastics, when better known and skilfully applied, will add efficiency to the means of prevention, and new resources and new success to the methods of cure. A student of medicine, seized with a nervous affection which deprived him of sleep, was completely cured by motions of the superior extremities, repeated twice a day, and carried to fatigue.

A man, fifty years of age, tormented with a painful sciatic complaint of the hip and loins, and who obtained no relief from four blisters, and other appropriate remedies,—by a series of motions of the affected limb, acquired such a degree of suppleness and strength, as to walk about and attend to his business. Another case is reported by Mr. Clias:

An infant, three years old, could hardly stand alone; at five years he walked imperfectly, even with the help of leading strings. It was not till the seventh year, that he began to walk without assistance, and even then he fell often, and could not raise himself from the ground. Abandoned by the physicians, he thus passed along to the seventeenth year of his age. Even then his loins and lower extremities could scarcely bear the weight of his body. His arms were extremely weak, and turned forward toward the chest, so that the approximation of his shoulders

compressed this cavity, and embarrassed the lungs in breathing. His intellectual faculties were feeble and inanimate, and there was no indication of the usual advancement of the corporeal fabric. In November, 1815, this unfortunate youth was presented to Mr. Clias by several of his pupils, who requested the favor of his being admitted into his academy. On admission, his strength was ascertained by the dunameter. The pressure of his hands was merely equal to the effort of children of seven or eight years.

His power of drawing, of raising his body, of jumping and leaping, were scarcely perceptible. With very great difficulty, he would run the distance of one hundred steps in one minute and two seconds, after which he had not strength enough to stand. A weight of fifteen pounds, held in his hand, made him stagger, and a child of seven years could throw him down with the greatest ease. After he had been five months subjected to the gymnastic training, the pressing force of his hands equalled fifty pounds; with his arms he could raise himself three inches from the ground, and remain suspended three seconds; he leaped three feet in length, ran one hundred and sixtythree steps in a minute, carrying a weight of thirtyfive pounds on his shoulders. Finally, in 1817, he climbed, in the presence of several thousand spectators, to the top of an insulated cable of twenty feet in height; he repeated the same manœuvre on a slippery mast, leaped six feet in extent, and ran five hundred paces in two minutes and a half. He now walks five leagues without inconvenience; and, after a frightful leanness, his exercise has given him a comfortable share of plumpness; and confirmed health has followed his valetudinary state.

It is not my intention, at this time, to treat of gymnastics as a part of curative medicine; and yet I have thought, that some exhibition of the power of this art in relieving and curing various diseases, would tend to fortify the conviction of its influence and value as a part of education. With this view, I make a few extracts from the report of a committee of physicians of Paris, who were appointed to investigate the effects of their gymnasium. They say, "Among the maladies, which are likely to yield to a judicious and methodical combination of the motions of the lower limbs, we should place lumbago, and sciatica, spontaneous laxations of the thigh bone; stiffness of the joints, sprains, malconformations of the lower extremities and pelvis; palsy, rheumatism, numbness, lymphatic swellings, and hardness of the cellular membrane, herpes, amenorrhœa, leucorrhœa, &c. A multitude of diseases give way to the persevering and continued action of the arms; and, as the muscles of the chest are brought into action at the same

time, these exertions prove sufficient to prevent or remove many deformities and disorders, to which the chest is liable."

The work of Capt. Clias describes a series of two hundred and seven exercises, hardly one of which is included in the common plays or games. All this variety of action and effort has for its primary object, to give flexibility and energy to the joints and muscles, to rectify the body, to give it stability and proportion, and to call forth its resources in avoiding or braving danger, and in surmounting obstacles.

The greater number, superior powers, and accuracy of the instruments of the present day, with the improved views in our time relating to physiology and pathology, have increased the resources of the new gymnasiums, and produced results far more useful, varied and extensive, than were known in Greece or Rome.

It has been ascertained by experiment, that four men, who have been invigorated by some lessons in the palestra, or gymnasium, become equal in strength to five men, in all other respects equal, this discipline only excepted; in other words, that these exercises add one fourth to any one's strength.

By competent and impartial observers, the acknowledgment has already been made, that the palestric art extends its salutary influence also over the senses, perfecting their accuracy, and improving their strength and delicacy. Further, we know, that children have a strong propensity to use exclusively those organs and limbs, which execute their wishes most easily and readily, and this unequal exercise of the body produces an unequal distribution of strength and size; and this inequality of action and power may so far destroy the healthy balance and harmony of the different parts of the animal economy and frame, as to produce disease, and even deformity. The appropriate remedy for all this deviation from soundness and symmetry is the gymnasium. This provides for the more frequent exercise of the feebler and undisciplined organs and muscles, till they regain their equal and proper share of size, form, cleverness and strength.

Plato, who, by his genius, made so many approximations to later improvements, and discovered so many valuable facts, was desirous, that warriors should habituate themselves to be ambidextrous, to avoid the inconvenience of having one good, and one bad hand. This idea has now been accomplished. A French writer says, if we extend our view to other points of hygiene and pathology, we may indulge the wellfounded hope of banishing from society that nervous mobility and morbid sensibility so prevalent among us. Engendered of effemina-

cy, they perpetuate themselves, with the whole tribe of hysterical, vaporish, and hypochondriacal maladies.

Invigorate the living economy, and these factitious calamities will disappear.

Let the friends of peace take courage; the discipline of the new gymnasiums has no longer for its object an acquaintance with the use of murderous weapons. It is from no purpose of destruction, that gymnastic seminaries derive their claim to public patronage; it is from laying open new avenues to health and good morals. In these useful establishments, the physical and moral energy, which the pupil acquires, is always applied to the happiness of his fellows, and all the springs of a noble emulation are called into action.

Generous sentiments germinate and expand, corporeal vigor and address lend their support; and this union of corporeal and moral resources waits only for occasions to execute deeds worthy of an alliance, which nature demands, but which men have too long interrupted. Let it be remarked, to the honor of the philanthropists of France, who have directed their researches to all the inquiries, which bear on the public welfare, that they have attended particularly to the subject of education. Under their auspices, all the links, which compose the chain of the human faculties, are about to be united.

Their affinity having been demonstrated, they should no longer be kept asunder, but carried on and completed, I would almost say, by the same hands. The same individual should be made the common possessor of the riches of intelligence, and of the immunities and prerogatives of a perfect body.

The gymnasium affords an essential aid to morals, by filling up the vacant hours between the periods of mental application. These intervals are occupied in a way not only suited to promote physical wellbeing, but to be, at the same time, in a high degree entertaining, instructive, and useful. These dangerous intervals with us, during which the pupil is left very much, far too much, to himself, are spent in a manner, which too often leads to dissipation, and the formation of such habits as are at once destructive of health, of reputation, and happiness.

In the delightful occupations of the gymnasium, the teacher is the companion and friend of his pupils, under whose easy guidance they are always safe; always active, always happy, always improving.

Nothing is more beautiful than to form the mind of the child; to cherish in his bosom all the social virtues, by the precepts of wisdom, and the brightest examples; to impart to his tender intellect the capacity of recognizing the most delicate impressions, and of acquiring the greatest amount of at-

tainable knowledge, with the energy and disposition for applying it to the best purposes of life. What glorious results for human advancement!

In place of an effeminate, inconstant generation, adds the French author, irritated by the smallest resistance, prostrated by the slightest obstacles, brought down by the least disorder, enslaved by the debasing wants of luxury,—we should see a generation strong by nature and by art, and forearmed against the dangers to which our existence inevitably exposes us; a race endowed with frankness and firmness of character,—with presence of mind, constancy and courage,—in a word, worthy of the heroic manners of antiquity.

We should then see disappear, not to return, all the abuses, which arose in our ancient colleges from an habitual transgression of the laws of health; and our youth, freed from restraints in executing the most essential functions of the animal economy, would no longer have reason to fear those infirmities of manhood, which take their origin from a perverted education.

The adult, too, confined to a sedentary life, from the cultivation of letters, or any other cause, will find in the gymnastic recreations a salutary relaxation, and may thus follow, without blushing, the example of Cicero, and many other men of genius, whose productions we admire.

In the first years of life, when the muscular system and the senses are to be educated, the extreme mobility of the infant indicates the urgent necessity for motion, in order to gratify this irresistible propensity to make experiments on their own powers.

How wisely the cause is adapted to produce its natural effect! The progressive improvement and wellbeing of the embryo man, are accomplished merely by indulging his inclination.

The parent has only to give him scope for action, to superintend his movements, and to protect his inexperience.

Exercise seems to effect all the infant requires, simply by preserving a balance between the sensitive system—the brain, which is, in comparison, greatly unfolded, and the muscular system, which is hardly any thing. At a later period, when the noisy sports of childhood are exchanged for indescribable emotions, active and continued exercise affords the only adequate security against the fatal attractions of pleasure. In adult age, exercise presents the advantage of distributing to the limbs and surface of the body the powers and efforts of the system, which the pernicious habits of civic life are perpetually concentrating in the interior organs. Exercise, active or passive, according to the condition of the individual, is the

more necessary to counteract this morbid direction of the actions of the system, because, at this epoch, the growth being completed, and no portion of nutriment being appropriated to the increase of the body, a superfluous share of the nutritious fluids can no otherwise be safely disposed of. Without this provision, we have plethora and its dangerous consequences.

In old age, exercise is essential to deliver the principal functions, particularly the digestive, from that sense of weight and oppression, which prevail at this season of life.

It is this, which revives a genial warmth and activity in feeble and chilly habits, supports a free circulation, and sustains in the veteran warrior that consciousness of strength and prowess, which imparts to him the feeling of invincibility till the very hour, in which death comes to cut short the animated recital of his former deeds.

It remains to say something of the labors of the mind,—something for literary men, who contribute so much to the intellectual treasures and enjoyments of society.

How shall these labors be carried on in union with the success and prosperity of the corporeal system?

Let us here pluck up, if possible, some of those gloomy cypresses, which grow about the palms of literary preeminence, and cast a melancholy shade over the path to immortality.

We gratefully offer a small tribute of preventive admonitions to those generous minds, who, filled with a noble ardor and courage, surrender health for new accessions of knowledge, and who, rising above the consideration of self, sacrifice to glory on the altar of death.

We owe to these victims, for their productions, rather than to their discretion, a stronger proof of admiration than the few rules we have to present them.

The morning is generally the best time for mental exertion: we say generally, for some individuals, who devote themselves to objects of sentiment and imagination, do not apply themselves with facility and success till they have been strongly impressed by some vivid emotion; as some frigid temperaments do not work to advantage till after the vital properties are raised, by excitants, above their ordinary standard. The amount of labor to be performed with impunity is to be calculated on the constitution and habits of individuals, and on the kind of work to be done. One but little accustomed to an exhausting kind of effort, and whose mind is soon animated to violent exertions, will much sooner exhaust his strength than one who studies under different circumstances. Dr. Londe advises the student, when he sits down to apply himself in earnest, to remove his cravat, take off his garters and suspenders,

and to unbutton the collar of his shirt. By these precautions, which may seem unnecessarily minute, the doctor contends, that the circulation, particularly that of the lungs, is carried on more easily, and that a common cause of cerebral congestion is thus prevented.

If it be intended to continue the application for most of the forenoon, a light breakfast only should be taken.

By concentrating his ideas to a point, the student mounts to an elevated degree of cerebral action,—a febrile excitement may arise, in consequence of the sympathy between the heart and the brain, which may favor the production of thought.

In this state of excitement, all the vital energies centre in the brain, and here produce an exaltation, by which one may really profit, provided the hour is yet sufficiently remote from the time of sleep; but, if otherwise, the applicant should never fail to allay this excitement by some corporeal exercise, a footbath, or some other revulsion.

If this state of the system is not removed or lessened before one attempts to sleep, this dangerous tendency to increased fulness and action in the head is strengthened by the horizontal position of the body, by a suspension of the influence of external objects on the senses, and by the presence of every circumstance suited to stimulate the mind.

Apoplexy is sometimes induced by repeated and prolonged excitements and efforts of this kind, especially in plethoric habits.

To avoid these perils, study should never be continued to a late hour of night; and after the mental labor is over, the mind, before sleep, should always be diverted from any close thinking, and refreshed by society, or some light and agreeable recreation.

The exercises best suited to men of letters are riding, walking, ninepins, bowling, shuttlecock, coits, and the lighter games of ball; and these should occupy at least two hours every day. The following fact will serve to illustrate New England ideas of the use of these exercises: It happened, at one of our colleges, that a bowling green was the only facility or inducement, which the students had for taking any exercise of this sort. The government of the college, however, for some reason or other, saw fit to prohibit this recreation, and it was accordingly broken up!

Will our literary gentlemen blush to follow the example of Scipio and Scœvola, who played the small coit on the border of the sea? If so, let them call to mind, that the wisest of mortals played riding the horse with a stick, to relax his mind, and

amuse his children. "Arundine equitavit ipse Socrates :"
Valerius Maximus.

Reading aloud and declaiming are beneficial; and bathing and frictions are of indispensable use to studious and sedentary men.

Some of these exercises should every day terminate their labors, and precede their meals.

The play and action, which these exercises communicate to the lungs and abdominal viscera, remove entirely from these organs that sinking and feebleness, which mental labor induces.

Beside a due quantity of appropriate and regularly continued exercise, there are three things, which Dr. Londe thinks he cannot too strongly recommend to studious individuals of a dry constitution: 1. a total abstinence from all stimulating drinks and acrid condiments; 2. as much sleep as health requires; 3. great moderation in the use of solid food, particularly *animal* diet.

If any of our plethoric young men, however, who lay no small stress on beef and porter, should suspect this sober regimen to be more likely to diminish their buoyant spirits and enjoyments, than to give them any thing preferable in return, they have then to choose between

Beaucoup d'ans sans gloire,
Ou peu de jours suivis d'une longue mémoire.

RACINE.

We are nevertheless persuaded, that the course here recommended for literary men, if discreetly followed, can do nothing worse for any of our countrymen, than to give freedom, strength and activity to their minds, durable soundness to their bodies, and length to the number of their days.' C.

CHAP. III.

OF THE LABORIOUS, THE SEDENTARY, AND THE STUDIOUS.

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 favorable to health or not. For this reason, instead of inveighing, in a

general way, as some authors have done, against those occupations, which are hurtful to health, we shall endeavor to point out the circumstances in each of them, from which the danger chiefly arises, and to propose the most rational methods of preventing it.

Chemists, founders, forgers, glass makers, and several other artists, are hurt by the unwholesome air, which they are obliged to breathe. This air is so loaded with the noxious exhalations arising from metals and minerals, as to be rendered unfit for expanding the lungs sufficiently, and answering the other important purposes of respiration. Hence proceed asthmas, coughs, and consumptions of the lungs, 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, sallads, 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 spring, and other qualities necessary for respiration, but is often loaded with such noxious exhalations as to become a most deadly poison.

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. Fallopius observes, that those who work in mines of mercury seldom live above three or four years. 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 sallad oil. Oil not only opens the body, but sheathes and defends the intestines from the ill effects of

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

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 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 bodies. 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 a vomit, 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 neighborhood.

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 *Studios*.

THE LABORIOUS.

THOUGH those who follow laborious employments are, in general, the most healthy of 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 labor 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, laborers, &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. Hippocrates mentions an instance to this purpose, of a man, who, upon a wager, carried an ass; but was soon after seized with a fever, a vomiting of blood, and a rupture.

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 labor, 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. One would imagine the daily instances we have of the fatal effects of carrying great weights, running, wrestling, and the like, would be sufficient to prevent such practices, when not discreetly conducted as a part of physical education.

There are indeed some employments, which necessarily require a great exertion of strength; as those of porters, blacksmiths, carpenters, &c. None ought to follow 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.

The erisipelas, or St. Anthony's fire, is a disease very incident to the laborious. 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 labor 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.

The iliac passion, the colic, and other complaints of the bowels, are often occasioned by the same causes as the erisipelas; but they may likewise proceed from flatulent and indigestible food. Laborers 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 these parts.

Inflammations, whitloes, and other diseases of the extremities, are likewise common among those who labor 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 laborers, milk maids, &c. come from the field, cold or wet, they run to the fire, and often plunge their hands into warm water ; by which means the blood and other humors in these 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.

Laborers, 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 laborers 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 be, they ought to have it at regular times ; and the harder they work, the more frequently they should eat. If the humors be not frequently replenished with fresh nourishment, they soon become putrid, and produce fevers of the very worst kind.

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 on one meal a day in indolence, rather than labor, though it were to procure them the greatest affluence.

Fevers of a very bad kind are often occasioned among laborers by *poor living*. When the body is not sufficiently nourished, the humors become vitiated, and the solids weak ; whence the most fatal consequences ensue. *Poor living* is likewise productive of many of those cutaneous diseases 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 on a good pasture. This shows how much a good state of the fluids depends on 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 anything. 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 these 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.

Laborers 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. Such as wantonly throw away their lives in this manner deserve to be looked upon in no better light than self murderers.

The office 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.*

* It is indeed to be regretted, that soldiers suffer not less from indolence and intemperance in time of peace, than from hardships in time of war. If men are idle, they will be vicious. It would therefore be of great importance, could a scheme be formed for rendering the military, in times of peace, both more healthy and more useful. These desirable objects might, in our opinion, be obtained, by employing them for some hours every day, and advancing their pay accordingly. By this means, idleness, the mother of vice, might be prevented, the price of labor lowered, public works, as harbors, canals, turnpike roads, &c. might be made, without hurting manufactures, and soldiers might be enabled to marry and bring up children. A scheme of this kind might easily be conducted so as not to depress the mar-

Sailors may also be numbered among the laborious. They undergo great hardships from change of climate, the violence of the weather, hard labor, 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 lives.

One great source of the diseases of seafaring 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 humors, 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 this 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 humors. Flour will keep for 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

tial spirit, provided the men were only to work four or five hours every day, and always to work without doors: no soldier should be suffered to work too long, or to follow any sedentary employment. Sedentary employments render men weak and effeminate, quite unfit for the hardships of war; whereas working for a few hours every day, without doors, would inure them to the weather, brace their nerves, and increase their strength and courage.

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 this brave and useful set of men.*

We have reason to believe, if due attention were paid to the diet, air, clothing, and, above all things, to the cleanliness of seafaring people, they would be the most healthy set of men in the world; but when these are neglected, the very reverse will happen.

The best *medical antidote*, that we can recommend to sailors or soldiers on foreign coasts, especially where dampness prevails, is the Peruvian bark. This will often prevent fevers, and other fatal diseases. About a drachm of it may be chewed every day; or, if this should prove disagreeable, an ounce of bark, with half an ounce of orange peel, and two drachms of snakeroot coarsely powdered, may be infused for two or three days in an English quart of brandy, and half a wine glass of it taken twice or thrice a day, when the stomach is empty. This has been found to be an excellent antidote against fluxes, putrid, intermitting, and other fevers, in unhealthy climates. It is not material in what form this medicine is taken. It may either be infused in water, wine, or spirits, as recommended above, or made into an electuary, with syrup of lemons, oranges, or the like.

THE SEDENTARY.

THOUGH nothing can be more contrary to the nature of man than a sedentary life, yet this class comprehends by far the greater part of the species. Almost the whole female world,

* Our countryman, the celebrated Capt. 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° north, to the 71° of south latitude, of one hundred and eighteen men, composing the ship's company, he lost only one, who died of a *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.

and, in manufacturing countries, the major part of the male may be reckoned sedentary.*

Agriculture, the first and most healthful of all employments, is now followed by few, who are able to carry on any other business. But those who imagine, that the culture of the earth is not sufficient to employ all its inhabitants, are greatly mistaken. An ancient Roman, we are told, could maintain his family from the produce of one acre of ground. So might a modern Briton, if he would be contented to live like a Roman. This shows what an immense increase of inhabitants Britain might admit of, and all of whom might live by the culture of the ground.

Agriculture is the great source of domestic riches. Where it is neglected, whatever wealth may be imported from abroad, poverty and misery will abound at home. Such is, and ever will be, the fluctuating state of trade and manufactures, that thousands of people may be in full employment to day, and in beggary tomorrow. This can never happen to those, who cultivate the ground. They can eat the fruit of their labor, and can always by industry obtain, at least, the necessaries of life.

Though sedentary employments are necessary, yet there seems to be no reason why any person should be confined for life to these alone. Were such employments intermixed with the more active and laborious, they would never do hurt. It is constant confinement that ruins the health. A man may not be hurt by sitting five or six hours a day; but if he is obliged to sit ten or twelve, he will soon become diseased.

But it is not want of exercise alone, which hurts sedentary people; they likewise suffer from the confined air, which they breathe. It is very common to see ten or a dozen tailors,† or staymakers, for example, crowded into one small apartment, where there is hardly room for one person to breathe freely. In this situation, they generally continue for many hours at a time, often with the addition of several candles, which tend

* The appellation of sedentary has generally been given only to the studios: we can see no reason, however, for restricting it to them alone. Many artificers may, with as much propriety, be denominated sedentary as the studios, with this particular disadvantage, that they are often obliged to sit in very awkward postures, which the studios need not do, unless they please.

† A person of observation in that line of life told me, that most tailors die of consumptions; which he attributed chiefly to the unfavorable postures in which they sit, and the unwholesomeness of those places where their business is carried on. If more attention were not paid to profit than to the preservation of human lives, this evil might be easily remedied; but while masters only mind their own interest, nothing will be done for the safety of their servants.

likewise 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 incident to 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 him, 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.

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, flatulencies, headaches, pains of the breast, &c.

The ailment 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, 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 humors.

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 this organ fails, the humors 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 the 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 humors 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. The scrofula, consumption, hysterics, and 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 great towns, at least two thirds of the inhabitants are afflicted with them.

It is very difficult to remedy these 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 crosslegged.

All sedentary artificers ought to pay the most religious re-

gard 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 neighbors.

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.

Instead of multiplying rules for preserving the health of the sedentary, we shall recommend to them 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.

Laboring 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 prospect, 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.*

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 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

* 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.

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 extremes, 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 diversion, or the like.

Instead of attempting to investigate the nature of that connexion which subsists between the mind and the body, or to inquire into the manner in which they mutually affect each other, we shall only mention those diseases to which the learned are more peculiarly liable, and endeavor to point out the means of avoiding them.

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 humors are not duly prepared, diseases must ensue.

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 the 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.

The circulation in the liver being slow, obstructions in this organ can hardly fail to be the consequence of inactivity. Hence sedentary people are frequently afflicted with scirrhus 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.

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.

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 breastbone 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.

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 humors become crude and vitiated, the solids weak and relaxed, and the whole constitution goes to ruin.

Long and intense thinking often occasions grievous headaches, 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.

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.

It has already been observed, that the excretions are very defective in the studious. The dropsy is often occasioned by the retention of those fluids, 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.

Fevers, especially of the nervous kind, are often the effect of study. Nothing affects the nerves so much as intense thought. It in a manner unhinges the whole human frame, and not only hurts the vital motions, but disorders the mind itself. Hence a delirium, melancholy, and even madness, are often the effect of close application to study. In fine, there

is no disease which can proceed either from a bad state of the humors, a defect of the usual secretions, or a debility of the nervous system, which may not be induced by intense thinking.

But the most afflicting of all the diseases which attack the studious is the hypochondriacal. 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 labor 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 a useful member of society. He often neglects the most important duties of life, in order to pursue studies of a very trifling nature. Indeed, it rarely happens that any useful invention is the effect of mere study. The further men dive into profound researches, they generally deviate the more from common sense, and too often lose sight of it altogether. Profound speculations, instead of making men wiser or better, generally render them absolute sceptics, and overwhelm them with doubt and uncertainty. All that is necessary for man to know, in order to be happy, is easily obtained; and the rest, like the forbidden fruit, serves only to increase his misery.

Studious persons, 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 thoughts 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.

Learned men often contract a contempt for what they call trifling company. They are ashamed to be seen with any but philosophers. This however is no proof of their being philosophers themselves. No man deserves this name, who is ashamed to unbend his mind by associating with the cheerful and gay. Even the society of children will relieve the mind, and expel the gloom which intense application is too apt to occasion.

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 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 allcheering rays of the sun render the air wholesome, as in places where they never enter.

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 benefited by delivering discourses in public. Public speakers, indeed, sometimes hurt themselves by overacting their part; but this is their own fault. The martyr to mere vociferation merits not our sympathy.

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.

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 this 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 humor.

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.

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 vigor, 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, overrun 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!

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 early 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.

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 ardor 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 have here deemed 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. IV.

OF ALIMENT.

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 hereby 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 quantity, yet the quality of food merits a further 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 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. It is a common practice, however, in some grazing countries, for servants and poor people to eat such animals as die of any disease, or are killed by accident. Poverty, indeed, may oblige people to do this; but they had better eat a smaller quantity of what is sound and wholesome: it would both afford a better nourishment, and be attended with less danger.

The injunction given to the Jews, not to eat any creature, which died of itself, seems to have a strict regard to health; and ought to be observed by Christians as well as Jews. Animals never die themselves without some previous disease; but how a diseased animal should be wholesome food, is inconceivable: even those which die by accident must be hurtful, as their blood is mixed with the flesh, and soon turns putrid.

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 humors, and oppression of the spirits, in those who feed upon them.

* The poor, indeed, are generally the first who suffer by unsound provisions; but the lives of the laboring 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.

Animals are often rendered unwholesome by being overheated. 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 this is the case with all overdriven cattle; and the fever is often raised even to a 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 laboring under the very worst of diseases?

Butchers have likewise a method of filling the cellular membranes of animals with blood. This makes the meat seem fatter, and likewise weigh more, but is, notwithstanding, a very pernicious custom, as it both renders the meat unwholesome and unfit for keeping. I seldom see a piece of meat from the shambles, where the blood is not diffused through the cellular texture. I shall not say, that this is always the effect of design; but I am certain it is not the case with animals that are killed for domestic use, and properly blooded. Veal seems to be most frequently spoilt in this way. Perhaps this may, in some measure, be owing to the practice of carrying calves from a great distance to market, by which means their tender flesh is bruised, and many of their vessels burst.

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 flesh in twentyfour hours, and this ought to consist of one kind only.

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.

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 humors viscid, which disposes the body to inflammatory fevers, scurvies, and the like.

Much has been said on the ill effects of tea in diet. They are, no doubt, numerous; but they proceed rather from the imprudent 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 by, 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.

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 tumors or

wens on their necks. 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.

When water is impregnated with foreign bodies, it generally appears by its weight, color, 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 color, 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.

As fermented liquors, notwithstanding they have been exclaimed against by many writers, still continue to be the common drink of almost every person, who can afford them, we shall rather endeavor to assist people in the choice of these liquors, 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 labor 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. When this 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 familiés, 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, in various ways adulterated, and taken to excess, they must have many pernicious effects.

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.

To specify the different kinds of aliment ; to explain their nature and properties ; and to point out their effects in different constitutions, would far exceed the limits of our design. Instead of a detail of this kind, which would not be generally understood, and of course little attended to, we shall only mention the following easy rules with respect to the choice of aliment :

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

Such as abound with blood should be sparing in the use of every thing that is highly nourishing, as fat meat, rich wines, strong ale, 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.

Fat people should not eat freely of oily, nourishing diet. They ought frequently to use raddish, 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.

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.

People who are affected with the gout, low spirits, hypochondriacal or hysteric disorders, ought to avoid all flatulent food, every thing that is viscid, or hard of digestion, all salted or smokedried 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.

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 labors hard without doors. Many kinds of food will nourish a peasant very well, which would be almost indigestible to a citizen ; and the latter will live upon a diet, on which the former would starve.

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.

Those who labor 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.

In the first period of life, our food ought to be light, but nourishing, and frequently taken. Food that is solid, with a sufficient degree of tenacity, is most proper for the state of manhood. The diet suited to the last period of life, when nature is on the decline, approaches nearly to that of the first. It should be lighter and more succulent than that of vigorous age, and likewise more frequently taken.

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 overdistended 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.

The frequent repetition of aliment is not only necessary for repairing the continual waste of our bodies, but likewise to keep the fluids sound and sweet. Our humors, even in the most healthy state, have a constant tendency to putrefaction, which can only be prevented by frequent supplies of fresh nourishment. When this is wanting too long, the putrefaction often proceeds so far as to occasion very dangerous fevers. Hence we may learn the necessity of regular meals. No person can enjoy a good state of health, whose vessels are either frequently overcharged, or the humors long deprived of fresh supplies of chyle.

Long fasting is extremely hurtful to young people; it not only vitiates their humors, 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, headache, 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 next afternoon. Such may be said to fast almost three fourths of their time. This can hardly fail to ruin the appetite, vitiate the humors, and fill the bowels with wind; all which might be prevented by a solid breakfast.

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, repletion. Many diseases, especially fevers, are the effect of a plethora, or too great fulness of the vessels. Strong people, in high health, have generally a great quantity of blood and other humors. 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 agree better 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 understood 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 selfdenial.

CHAP. V.

OF 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 violent 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 endeavor to point out some of these, and to show whence the danger chiefly arises.

Air 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 humors adust and thick. Hence proceed bilious and inflammatory fevers, cholera morbus, &c. Very cold air obstructs the perspiration, constricts 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 agues, or 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 vapors 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 church yards 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 on entering a church, and renders it a very unsafe place for the weak and valetudinary. These inconveniences 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

* 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.

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

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 vapor, and could not fail to promote the health of the inhabitants.

In hospitals, jails, ships, &c. where this 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 noxious. That kind of air is 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 bed chamber 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

* 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.

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. Breathing 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 hypochondriacal 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 driest 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. frequently 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.

Physicians, surgeons, and others, who attend hospitals, ought, for their own safety, to take care that they be properly ventilated. Such persons as are obliged to spend most of their time amongst the sick, run great hazard of being themselves infected when the air is bad. All hospitals, and places of reception for the sick, ought to have an open situation, at some distance from any great town, and such patients as labor under any infectious disease ought never to be suffered to come near the rest.*

It gives me great pleasure to observe, that good sense and humanity have of late years been displayed in the choice of proper situations for those buildings, and in due attention to keep them well aired. But my remarks on other sources of widely diffused infection have been hitherto productive of little effect. The practice of burying the dead in the centre of populous neighborhoods is still too generally continued. Churches

* A year seldom passes that we do not hear of some hospital physician or surgeon having lost his life by an hospital fever caught from his patients. For this they have themselves alone to blame. Their patients are either in an improper situation, or they are too careless with regard to their own conduct.

and church yards are made the chief places of interment, in direct opposition to reason, and to the example of the most enlightened people of antiquity. The first words of the old Roman inscriptions on tombstones, "*Siste, viator,*" *Stop, traveller,* show that the dead were buried by the side of public roads, not in temples, nor in the heart of towns and cities. One of the laws of the late JOSEPH the Second, relative to this point, will do him immortal honor. After strictly prohibiting the interment of dead bodies in any church or chapel, "It is horrid," says the emperor, "that a place of worship, a temple of the Supreme Being, should be converted into a pest house for living creatures! A person who, upon his death bed, makes it a condition of his will to be buried in a church or chapel, acts like a madman: he ought to set his fellow creatures a good example, and not to do all in his power to destroy their constitutions, by exposing them to the effluvia arising from a corpse in a state of putrefaction."

The admirable sentiment expressed by one of our own countrywomen, who died a few years since, affords a striking contrast with the superstitious folly so justly stigmatized by the emperor. This extraordinary female, whose mind was superior to the weakness of her sex, and to the prejudices of custom, being fully sensible, as she herself expressed it in her last will, "That the bodies of the dead might be offensive to the living," ordered her body to be burnt, and the ashes deposited in an urn, in the burying ground of St. George's, Hanover Square, where the remains of the sentimental YORICK are also interred.

CHAP. VI.

OF EXERCISE.

MANY people look upon the necessity man is under, of earning his bread by labor, 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 labor 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, everywhere, 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 a 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. In this case, the worst consequences must ensue. How can persons who loll all day in easy chairs, and sleep all night on beds of down, fail to be relaxed? Nor do such greatly mend the matter, who never stir abroad but in a coach, sedan, or such like. These elegant pieces of luxury are become so common, that the inhabitants of great towns seem to be in some danger of losing the use of their limbs altogether. It is now below any one to walk, who can afford to be carried. How ridiculous would it seem to a person unacquainted with modern luxury, to behold the young and healthy swinging along on the shoulders of their fellow creatures! or to see a fat carcass, overrun with diseases occasioned by inactivity, dragged through the streets by half a dozen horses!*

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,

* It is not necessary, but fashion, which makes the use of carriages so common. There are many people, who have not exercise enough to keep their humors wholesome, who yet dare not venture to make a visit to their next neighbors but in a coach or sedan, lest they should be looked down upon. Strange, that men should be such fools as to be laughed out of the use of their limbs, or to throw away their health, in order to gratify a piece of vanity or to comply with a ridiculous fashion!

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 labor for their daily bread. This plainly points out the sources, 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 this 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 humors, and occasions the gout, fevers, rheumatism, &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 a 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 undoubt-

* 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.

edly 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, 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 this cannot be done, various methods may be contrived for exercising the body within doors, as the dumbbell, 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 laboring 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, handball, golf,* &c. These exercise the limbs, promote perspiration, and the other secretions.

* Golf 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 overheat nor fatigue. It has greatly the preference over cricket, tennis, or any of those games which cannot be played without violence.

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. Overfatigue 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 hypochondriacal 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 manufactures, 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 honor from a few masterly specimens of their own workmanship, as from the character of having ruined most of their companions by gaming or drinking. 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. VII.

OF SLEEP AND CLOTHING.

SLEEP, as well as 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 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 neg-

lect the latter, can never relish the former. The laborer 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 this 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 nightmare, &c. Were the same persons to go to bed with a light supper, or sit up till this 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 eaten 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 happy, the cheerful, and the gay. This is a sufficient reason why every man should endeavor 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

* 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.

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 vigor 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.

OF 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; but in the decline of life, when the skin becomes rigid, and the humors 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 is 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 rigor, 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.*

* *That colds kill more than plagues*, is an old observation; and, with regard to this country, it holds strictly true. Every person of discernment,

Clothes often become hurtful 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.†

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

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 having 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 this 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.

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 headaches, 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 anything superfluous. What others lay out upon tawdry laces, ruffles, and ribbands, 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.*

* 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

Since the first publication of the preceding remarks, very important changes have taken place in the dress of our fair countrywomen, which afford the strongest proofs of their good sense and taste. The shape is no longer distorted, nor is growth checked, and the vital functions impeded, by a whalebone press. Easy, safe, and a graceful motion, in a flatheeled shoe, has completely abolished the awkwardness and danger of former attempts to totter about, as it were, on stilts. In a word, a becoming regard to health, simplicity and elegance, seems now to have more influence over female fashions than absurdity, caprice, or the desire of concealing any personal deformity.

I wish I could pay my own sex the same compliment, which the ladies have so well deserved. But an affectation of what is called military smartness, seems to have converted their whole apparel into a system of bandages. The hat is as tight as if it was intended for a helmet, and to defy the fury of a hurricane. Its form, also, being by no means suited to the natural shape of the head, it must be worn for a considerable time with very painful and unequal pressure, before it can be made to fit its new block. The neck is bolstered up and swathed with the most unnatural stiffness. Easy motion without, and free circulation within, are alike obstructed. Blotches and eruptions in the face, headaches, apoplexies, and sudden deaths, may be often traced to this cause; and if we view its effects in another light, we shall not be surprized at any inconsistency in the language or conduct of persons, who take so much pains to suspend all intercourse between the head and the heart.

The close pressure of the other articles of dress is equally reprehensible. Narrow sleeves are a great check upon the muscular exercise of the arms. The waistcoat, in its present fashionable form, may be very properly termed a *strait* one; and, no doubt, is, in many instances, an indication of some mental derangement. The wrists and knees, but more particularly the latter, are braced with ligatures, or tight buttoning; and the legs, which require the utmost freedom of motion, are screwed into leathern cases, as if to convey an idea, that the wearer is sometimes mounted on horseback. To complete the whole, and in order that the feet may be kept in as tight a

former not having sense to wear them. Be this as it may, I can with the strictest truth declare, that, in many cases, where the powers of medicine had been tried in vain, I have cured the patient by recommending thick shoes, a flannel waistcoat and drawers, a pair of understockings, or a flannel petticoat, to be worn during the cold season at least. Where warmer clothing is wanted, I would recommend the fleecy hosiery to be worn next the skin.

press as the head, when shoes are to be worn, the shape of the foot and the easy expansion of the toes are never consulted but fashion regulates the form of the shoe, sometimes square-toed, more frequently pointed, and always sure to produce cramps and corns, the keen, the sensible announcers of every change of the weather. I have so long employed serious argument upon these subjects in vain, that I am now accustomed to view them with pleasantry; and when I meet with such figures, disguised, and rendered truly awkward both in their motions and appearance, I cannot help thinking with Shakspeare, "that some of nature's journeymen had made them, and not made them well, they imitate humanity so abominably!"

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, renders the different secretions irregular, vitiates the humors, 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

* Rousseau.

this 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 has endowed 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 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 ambuscade among the dishes."

Nor is intemperance in other things less destructive than in diet. How quickly does the immoderate pursuit of sensual 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, whose parents, regardless of the future,

* Addison,

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 labors 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, 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 consumptions of the lungs. These are the common ways in which drunkards make their exit. Diseases 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 humors 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.

Consumptions are now so common, that it is thought one tenth of the inhabitants of great towns die of this disease. 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; whence proceed obstructions, and inflammations of the lungs. There are few great ale drinkers who are not phtisical: nor is this 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 shortlived; 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 humor.

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

* We may form some notion of the immense quantity of ardent spirits consumed in Great Britain from this circumstance, that in the city of Edinburgh and its environs, besides the great quantity of foreign spirits duly entered, and the still greater quantity which is supposed to be smuggled, it is computed that above two thousand private stills are constantly employed in preparing a poisonous liquor called *molasses*. The common people have got so universally into the habit of drinking this base spirit, that when a porter or laborer is seen reeling along the streets, they say *he has got molassed*.

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.*

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 eaten, 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 selfdenial causes a faintness and depression of spirits, which nothing can remove but the favorite 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.

* 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, 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 politer part of the English, we hope it will soon be banished from every part of this island.

CHAP. IX.

OF 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 reabsorbed from dirty clothes, it must occasion diseases.

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

* Mr. Pott, in his surgical observations, mentions a disease, which he calls the chimney sweeper's cancer, as it is almost peculiar to this unhappy set of people. 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.

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.

We are sorry to say, that the importance of general cleanliness does not seem to be sufficiently understood by the magistrates of most great towns in Britain; though health, pleasure, and delicacy, all conspire to recommend an attention to it. Nothing can be more agreeable to the senses, more to the honor of the inhabitants, or more conducive to their health, than a clean town; nor can any thing impress a stranger with a more disrespectful idea of any people than its opposite. 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 would often feel the bad effects of this disposition. One seldom sees a farm house without a dunghill 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, to 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.

* 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 on 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!

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 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.

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

* "Thou shalt have a place also without the camp, whither thou shalt go forth abroad; and thou shalt have a paddle upon thy weapon: and it shall be, when thou shalt ease thyself abroad, thou shalt dig therewith, and shalt turn back, and cover that which cometh from thee," &c.

Deut. chap. xxii. ver. 12, 13.

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 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 nowhere 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 this 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 practice 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 everywhere; but in populous cities it should be almost revered.*

I have often heard with concern the poor complain of the want of many things beyond their reach, while they disregarded other objects of the first importance, which were in their own power; namely, pure, open air, and the comforts of cleanliness. I do not know whether a late author had this object in view, when he called the lower orders "the swinish multitude;" but though I should be sorry to apply to them so reproachful an epithet, I must say, that uncleanness has been very properly denominated "the worst affliction of indolence and poverty." There is no excuse for dirt. Every body may be clean, even in rags, or in the meanest abode; and the poor would find such decency not only the best preservative of health, but the strongest recommendation to employment and to pity. Can any favorable opinion be entertained of the industry or activity of a sloven or a slattern? and will not the dread of infection often drive charity herself from the stinking hut, and from the noxious atmosphere of a filthy object?

CHAP. X.

OF INFECTION.

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 neighbors' lives, by a mistaken friendship, or an impertinent curiosity.

The houses of the sick, especially in the country, are gene-

* 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 for 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.

rally crowded, from morning till night, with idle visiters. It is customary, in such places, for servants and young people to wait upon the 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 abovementioned.

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. Everything, 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 climates, 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 attention, 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 houses 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 everywhere 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.

* Were the tenth part of the care taken to prevent the importation of disease, that there is to prevent smuggling, it would be attended with many happy consequences. This might easily be done by appointing a physician at every considerable seaport, to inspect the ship's company, passengers, &c. before they came ashore, and, if any fever or other infectious disorder prevailed, to order the ship to perform a short quarantine, and to send the sick to some hospital or proper place to be cured. He might likewise order all the clothes, bedding, &c. which had been used by the sick during the voyage, to be either destroyed, or thoroughly cleansed by fumigation, &c. before any of them were sent ashore. A scheme of this kind, if properly conducted, would prevent many fevers, and other infectious diseases, from being brought by sailors into seaport towns, and by this means diffused all over the country.

Such as wait upon the sick in infectious diseases, run very great hazard. They should stuff their noses with tobacco, or some other strongsmelling 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.

Many things are in the power of the magistrate, which would tend to prevent the spreading of infection; as the promoting of public cleanliness; removing jails, hospitals, burying grounds, and others places, where infection may be generated, at a proper distance from great towns;† widening the streets; pulling down useless walls; and taking all methods to promote a free circulation of air through every part of the town, &c. Public hospitals, or proper places of reception for the sick, provided they were kept clean, well ventilated, and placed in an open situation, would likewise tend to prevent the spreading of infection. Such places of reception would prevent the poor, when sick, from being visited by their idle or officious neighbors. They would likewise render it unnecessary for sick servants to be kept in their masters' houses. Masters had better pay for having their servants taken care of in an hospital, than

* There is reason to believe, that infection is often conveyed from one place to another by the carelessness of the faculty themselves. Many physicians affect a familiar way of sitting upon the patient's bedside, and holding his arm for a considerable time. If the patient has the small pox, or any other infectious disease, there is no doubt but the doctor's hands, clothes, &c. will carry away some of the infection; and if he goes directly to visit another patient, without washing his hands, changing his clothes, or being exposed to the open air, which is not seldom the case, is it any wonder that he should carry the disease along with him? Physicians not only endanger others, but also themselves, by this practice. And, indeed, they sometimes suffer for their want of care.

† The ancients would not suffer even the temples of their gods, where the sick resorted, to be built within the walls of a city.

run the hazard of having an infectious disease diffused among a numerous family. Sick servants and poor people, when placed in hospitals, are not only less apt to diffuse infection among their neighbors, but have likewise the advantage of being well attended.

We are not, however, to learn that hospitals, instead of preventing infection, may become the means of diffusing it. When they are placed in the middle of great towns; when numbers of patients are crowded together in small apartments; when there is a constant communication kept up between the citizens and the patients; and when cleanliness and ventilation are neglected, they become nests for hatching diseases, and every one who goes into them not only runs a risk of receiving infection himself, but likewise of communicating it to others. This, however, is not the fault of the hospitals, but of those who have the management of them. It were to be wished, that they were both more numerous, and upon a more respectable footing, as this would induce people to go into them with less reluctance. This is the more to be desired, because most of the putrid fevers and other infectious disorders break out among the poor, and are by them communicated to the better sort. Were proper attention paid to the first appearances of such disorders, and the patients early conveyed to an hospital, we should seldom see a putrid fever, which is almost as infectious as the plague, become epidemic.

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 neighbors in fevers, 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 unfavorable, 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 practised 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, and 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 this dangerous capacity.

CHAP. XI.

OF THE PASSIONS.

THE passions 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.

OF 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 harboring resentment in our breast. Resentment preys upon the mind, and occasions the most obstinate chronic 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 endeavor, 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.

OF 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.

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 childbed. Many of those who die in this situation are impressed with the notion of their death a long time before it happens; and there is reason to believe, that this impression is often the cause of it.

The methods taken to impress the minds of women with the apprehensions of the great *pain* and *peril* of childbirth, are very hurtful. Few women die in labor, though many lose their lives after it; which may be thus accounted for: A woman, after delivery, finding herself weak and exhausted, immediately apprehends she is in danger; but this fear seldom fails to obstruct the necessary evacuations, upon which her recovery depends. Thus the sex often fall a sacrifice to their own imaginations, when there would be no danger, did they apprehend none.

It seldom happens, that two or three women in a great town die in childbed, but their death is followed by many others. Every woman of their acquaintance, who is with child, dreads the same fate, and the disease becomes epidemical, by the mere force of imagination. This should induce pregnant women to despise fear, and by all means to avoid those tattling gossips who are continually buzzing in their ears the misfortunes of others. Every thing that may in the least alarm a pregnant or childbed woman, ought with the greatest care to be guarded against.

Many women have lost their lives in childbed by the old superstitious custom, still kept up in most parts of Britain, of tolling the parish bell for every person who dies. People who think themselves in danger, are very inquisitive; and if they come to know that the bell tolls for one who died in the same situation with themselves, what must be the consequence? At any rate, they are apt to suppose that this is the case, and it will often be found a very difficult matter to persuade them of the contrary.

But this custom is not pernicious to childbed women only. It is hurtful in many other cases. When low fevers, in which it is difficult to support the patient's spirits, prevail, what must be the effect of a funereal peal sounding five or six times a day in his ears? No doubt his imagination will suggest that others died of the same disease under which he labors. This apprehension will have a greater tendency to depress his spirits, than all the cordials of which medicine can boast will have to raise them. The only town which has abolished this custom is Bath.

If this useless piece of ceremony cannot be abolished, we ought to keep the sick as much from hearing it as possible, and from every other thing that may tend to alarm them. So far, however, is this from being generally attended to, that many make it their business to visit the sick, on purpose to whisper dismal stories in their ears. Such may pass for sympathizing friends, but they ought rather to be considered as enemies. All who wish well to the sick ought to keep such persons at the greatest distance from them.

A custom has long prevailed among physicians, of prognosticating, as they call it, the patient's fate, or foretelling the issue of the disease. Vanity, no doubt, introduced this practice, and still supports it, in spite of common sense, and the safety of mankind. I have known a physician barbarous enough to boast, that he pronounced more *sentences* than all his majesty's judges. Would to God that such sentences were not often equally fatal! It may indeed be alleged, that the doctor does not declare his opinion before the patient. So much the worse. A sensible patient had better hear what the doctor says, than learn it from the disconsolate looks, the watery eyes, and the broken whispers, of those about him. It seldom happens, when the doctor gives an unfavorable opinion, that it can be concealed from the patient. The very embarrassment which the friends and attendants show in disguising what he has said, is generally sufficient to discover the truth.

Kind heaven has, for the wisest ends, concealed from mortals their fate ; and we do not see what right any man has to announce the death of another, especially if such a declaration has a chance to kill him. Mankind are indeed very fond of prying into future events, and seldom fail to solicit the physician for his opinion. A doubtful answer, however, or one that may tend rather to encourage the hopes of the sick, is surely the most proper. This conduct could neither hurt the patient nor the physician. Nothing tends more to destroy the credit of physic, than those bold prognosticators, who, by the by, are generally the most ignorant of the faculty. The mistakes which daily happen in this way are so many standing proofs of human vanity, and the weakness of science.

We readily admit, that there are cases where the physician ought to give intimation of the patient's danger to some of his near connexions ; though even this ought always to be done with the greatest caution : but it never can be necessary, in any case, that the whole town and country should know, immediately after the doctor has made his first visit, *that he has no hopes of his patient's recovery.* Persons, whose impertinent curiosity leads them to question the physician with regard to the fate of his patient, certainly deserve no other than an evasive answer.

The vanity of foretelling the fate of the sick is not peculiar to the faculty. Others follow their example, and those who think themselves wiser than their neighbors often do much hurt in this way. Humanity surely calls upon every one to comfort the sick, and not add to their affliction by alarming their fears. A friend, or even a physician, may often do more good by a mild and sympathizing behavior than by medicine, and should never neglect to administer that greatest of all cordials, **HOPE.**

OF GRIEF.

GRIEF is the most destructive of all the passions. Its effects are permanent ; and when it sinks deep into the mind, it generally proves fatal. Anger and fear, being of a more violent nature, seldom last long ; but grief often changes into a fixed melancholy, which preys upon the spirits, and wastes the constitution. This passion ought not to be indulged. It may generally be conquered at the beginning ; but when it has gained strength, all attempts to remove it are vain.

No person can prevent misfortunes in life ; but it shows true greatness of mind to bear them with serenity. Many

persons 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 humors, 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 goodhumored 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.

OF 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 this 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 endeavor, 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, though 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 than the possession of its object, which, in this case, ought always, if possible, to be obtained.*

OF 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 befall them. It teaches men, 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, are a more powerful argument in its favor 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 KAMES, when he saw

* The conduct of parents with regard to the disposal of their children in marriage is often very blameable. An advantageous match is the constant aim of parents; while their children often suffer a real martyrdom betwixt their inclinations and duty. The first thing which parents ought to consult in disposing of their children in marriage, is certainly their inclinations. Were due regard always paid to these, there would be fewer unhappy couples, and parents would not have so often cause to repent the severity of their conduct, after a ruined constitution, a lost character, or a distracted mind, has shown them their mistake.

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.

OF THE COMMON 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.

OF THE EVACUATION BY STOOL.

FEW things conduce more to health than keeping the body regular. When the *feces* lie too long in the bowels, they vitiate the humors; 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 their 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 labors 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 unfavorable to regular stools, but also the warmth. This, by promoting the perspiration, lessens all the other discharges.

The method recommended for this purpose by Mr. Locke is likewise very proper, *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. Purg- ing 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 a 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*.

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

OF 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 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 of 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 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 surprized 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 numberless 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 favor of *urine doctors* is the strongest. The common people have still an unlimited faith in their skill, though 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.

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.

OF 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 endeavor 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.

CHANGES IN THE ATMOSPHERE.

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 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.

EVEN 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.

* I never knew a more remarkable instance of the uncertainty of the weather in this country, than happened when I was writing these notes. This morning, August 14, 1783, the thermometer in the shade was down at 53°, and a very few days ago it stood at above 80°. No one, who reflects on such great and sudden changes in the atmosphere, will be surprized to find colds, coughs, rheums, with other affections of the breast and bowels, so common in this country.

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, laborers, 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, laborers are often seized with intermitting fevers, quinsies, 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 illjudged 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 gunshot. 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 by 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 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 in 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

* 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 baleful influence.

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 laborers 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 this 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 bellyful 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 spirit, if it can be obtained, ought to be preferred to anything else. But if any one has been 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 in his stomach.

It would be tedious to enumerate all the bad effects which flow from drinking cold liquors when the body is hot. Some-

* 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.

times this has occasioned immediate death. Hoarseness, quinsies, and fevers of various kinds, are its common consequences. Neither is it safe, when warm, to eat freely of raw fruits, sallads, or the like. These, indeed, have not so sudden an effect on 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 effects 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, quinsies, 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. This 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 hothouses; they can hardly stir abroad to visit a neighbor but at the hazard of their lives. Were there no other reason for keeping houses moderately cool, this 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, glasshouses, and the like.

Some are even so foolhardy, as to plunge themselves, when hot, in cold water. Not only fevers, but madness itself, has frequently been the effect of this conduct. Indeed, it looks

* The taprooms 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.

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 this 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 enuring 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 sometimes 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 entertainment, 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 vigor of constitution, which should support him under 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 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.
OF DISEASES.

CHAP. XIII.

OF THE KNOWLEDGE AND CURE OF DISEASES.

THE cure of diseases does not depend so much on 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 those, 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.

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 this 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 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.

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.

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.

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. It is therefore necessary to inquire 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 labor under the same disease.

It will likewise be proper to inquire, 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

inquired 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 inquire 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 wonderful power or secret charm, and think, if the patient swallows enough of drugs, that he must do well. This mistake has many ill consequences ; it makes people trust to drugs, and neglect their own endeavors ; besides, it discourages all attempts to relieve the sick where medicines cannot be obtained.

Medicines are no doubt useful in their places ; and, when administered with prudence, may do much good ; but when they are put in place of every thing else, or administered at random, which is not seldom the case, they must do mischief. We would therefore wish to call the attention of mankind from the pursuit of secret medicines to such things as they are acquainted with. The proper regulation of these may often do much good, and there is little danger of their ever doing hurt.

Every disease weakens the digestive powers. The diet ought therefore, in all diseases, to be light and of easy digestion. It would be as prudent for a person with a broken leg to attempt to walk, as for one in a fever to eat the same kind of food, and in the same quantity, as when he was in perfect health. Even abstinence alone will often cure a fever, especially when it has been occasioned by excess in eating or drinking.

In all fevers attended with inflammation, as pleurisies, peripneumonies, &c. thin gruels, wheys, watery infusions of mucilaginous plants, roots, &c. are not only proper for the patient's food, but they are likewise the best medicines that can be administered.

In fevers of a slow, nervous, or putrid kind, where there are no symptoms of inflammation, and where the patient must be supported with cordials, this intention can always be more effectually answered by nourishing diet and generous wines, than by any medicines yet known.

Nor is a proper attention to diet of less importance in chronic than in acute diseases. Persons afflicted with low spirits, wind, weak nerves, and other hypochondriacal affections, generally find more benefit from the use of solid food, and generous

liquors, than from all the cordial and carminative medicines which can be administered to them.

The scurvy, that most obstinate malady, will sooner yield to a proper vegetable diet, than to all the boasted antiscorbutic remedies of the shops.

In consumptions, when the humors are vitiated, and the stomach so much weakened as to be unable to digest the solid fibres of animals, or even to assimilate the juices of vegetables, a diet consisting chiefly of *milk* will not only support the patient, but will often cure the disease after every other medicine has failed.

Nor is the attention to other things of less importance than diet. The strange infatuation, which has long induced people to shut up the sick from all communication with the external air, has done great mischief. Not only in fevers, but in many other diseases, the patient will receive more benefit from having the fresh air prudently admitted into his chamber, than from all the medicines which can be given him.

Exercise may likewise in many cases be considered as a medicine. Sailing, or riding on horseback, for example, will be of more service in the cure of consumptions, glandular obstructions, &c. than 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.

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.

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 selfappointed 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 candor 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 believe every man of common understanding, who reads my book, will feel his caution increased against the use of the most simple medicines; instead of being tempted, upon every trifling occasion, to run the risk of poisoning himself, or his family, by drugs, and dangerous compounds, from an apothecary's shop.

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 beforehand 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 this effect. I write in plain English; but I can assure any patient, that the prescription will not be less salutary for wanting the boasted charm of barbarous Latin, and of still more barbarous hieroglyphics.

CHAP. XIV.

OF FEVERS IN GENERAL.

AS more than one half of mankind are said to perish by fevers, it is of importance to be acquainted with their causes. The most general causes of fevers are, *infection, errors 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 performing some of the vital or animal functions.* The other symptoms usually attendant on fevers are, nausea, thirst, anxiety, delirium, weariness, wasting of the flesh, want of sleep, or disturbed and not refreshing sleep.

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 the stomach, or vomiting.

Fevers are divided into continual, remitting, intermitting, and such as are attended with cutaneous eruption or topical inflammation, as the small pox, erysipelas, &c. By a continual fever is meant that which never leaves the patient during the whole course of the disease, or which shows no remarkable increase or abatement in the symptoms. This kind of fever is likewise

divided into acute, slow, and malignant. The fever is called *acute* when its progress is quick, and the symptoms violent; but when these are more gentle, it is generally denominated *slow*. When livid or petechial spots show a putrid state of the humors, the fever is called *malignant*, *putrid*, or *petechial*.

A remitting fever differs from a continual only in degree. It has frequent increases and decreases, or exacerbations and remissions, but never wholly leaves the patient during the course of the disease. Intermitting fevers or agues are those, which, during the time that the patient may be said to be ill, have evident intervals or remissions of the symptoms.

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 endeavor 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 points out the use of water, and other cooling liquors. What is so likely to abate the heat, attenuate the humors, 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.

Many 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, limetree buds, and other mild vegetables. These liquors, especially when acidulated, are highly agreeable to the patient, and should never be denied him.

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. The 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 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 anything 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.

Poor people, when any of their family are taken ill, run directly to their rich neighbors for cordials, and pour wine, spirit, &c. into the patient, who perhaps never had been accustomed to taste such liquors when in health. If there be any degree of fever, this conduct must increase it; and if there be none, this is the ready way to raise one. Stuffing the patient with sweetmeats, and other delicacies, is likewise very pernicious. These

are always harder to digest than common food, and cannot fail to hurt.

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 humors 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 necessary 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 which means 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 spirit, 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. What the patient longs for, his stomach will generally digest; and such things have sometimes a very happy effect.

When a patient is recovering from a fever, great care is necessary to prevent a 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 a *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. XV.

OF INTERMITTING FEVERS, OR AGUES.

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 intermitting fevers take their names from the period in which the fit returns, as quotidian, tertian, quartan, &c.

CAUSES.—Agues are occasioned by effluvia from putrid, stagnating water. 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. This disease may also be occasioned by eating too much stone fruit, by a poor, watery diet, damp houses, evening dews, lying upon the damp ground, watching, fatigue, depressing passions, and the like. When the inhabi-

tants of a high country remove to a low one, they are generally seized with intermitting 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.—An intermitting fever generally begins with a 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. Afterwards the skin becomes moist, and a profuse sweat breaks out, which generally terminates the fit or paroxysm. Sometimes, indeed, the disease comes on suddenly, when the person thinks himself in perfect health; but it is more commonly preceded by listlessness, loss of appetite, and the symptoms mentioned above.

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

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 chamomile, 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 this 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 often 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,

* Dr. Lind says, that twenty or twentyfive 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.

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.

MEDICINE.—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, and frequently great quantities of bile are discharged by vomit; which plainly points out the necessity of such evacuations. Vomits are therefore to be administered before the patient takes any other medicine. 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 the vomit begins to operate, the patient ought to drink plentifully of weak chamomile tea. The vomit should be taken two or three hours before the return of the fit, and may be repeated at the distance of two or three days. Vomits not only cleanse the stomach, but increase the perspiration and all the other secretions, which render them of such importance, that they often cure intermitting fevers without the assistance of any other medicine.

Purging medicines are likewise useful, and often necessary, in intermitting fevers. A smart purge has been known to cure an obstinate ague, after the Peruvian bark and other medicines had been used in vain. Vomits, 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 purging salts, jalap, or rhubarb.

Bleeding may sometimes be proper at the beginning of an intermitting fever, when excessive heat, a delirium, &c. give reason to suspect an inflammation; 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 in powder.

Two ounces of the best Peruvian bark, finely powdered, may be divided into twentyfour doses. These may either be made into bolusses, as they are used, with a little syrup of lemon, or mixed in a glass of red wine, a cup of chamomile 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 remedy long enough. They are generally directed to take it till the fits are stopped, then to leave 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 chamomile flowers, and a handful of coriander seed, all bruised together in a mortar, may be used in form of infusion or tea. About half a handful of these ingredients may be put into a teapot, 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

* 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 medicinal 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.

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 ague.*

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 wineglass 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 snakeroot, 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 frequently had occasion to observe in a country where intermitting fevers were endemical. The bark seldom succeeded, unless assisted by snakeroot, 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.†

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

* There is reason to believe, that sundry of our own plants or barks, which are very bitter and stringent, would succeed in the cure of intermitting fevers, especially when assisted by aromatics. But as the Peruvian bark has been long approved in the cure of this disease, and is now to be obtained at a very reasonable rate, it is of less importance to search after new medicines. We cannot however omit taking notice, that the Peruvian bark is very often adulterated, and that it requires considerable skill to distinguish between the genuine and the false. This ought to make people very cautious of whom they purchase it.

† 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 snakeroot, 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, or salt of tartar, may be added to the above quantity of bark.

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 foolhardy 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 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 intermitting 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.

* Arsenic has of late been recommended as an infallible remedy in the ague; but I would advise that it should be used only under the eye of a physician.

Where agues are endemical, even children are often afflicted with the disease. Such patients are very difficult to cure, as they can seldom be prevailed on 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 agreeable sharpness with the elixir or spirit of vitriol. This both improves the medicine, and takes off the nauseous taste. In cases where the bark cannot be administered, 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 teaspoonful 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 laudanum and the saponaceous liniment.

We have been the more full upon this disease, because it is very common, and because few patients in an ague apply to physicians unless in extremities. There are, however, many cases in which the disease is very irregular, being complicated with other diseases, or attended with symptoms which are both very dangerous and very difficult to understand. All these we have purposely passed over, as they would only bewilder the generality of readers. When the disease is very irregular, or the symptoms dangerous, the patient ought immediately to apply to a physician, and strictly to follow his advice.

To prevent agues, people must endeavor to avoid their

* See Appendix, *Saline Mixture*.

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

In the directions I gave with regard to regimen, I forgot to observe, that change of air cannot be too strongly recommended. Without this, all the efforts of medical skill are sometimes exerted in vain.

The confidence which many people are still weak enough to place in the most whimsical pretensions to cure agues, renders it necessary to enforce with further argument my former caution against such silly, and often very dangerous, experiments. I do not speak merely of the deceptions of quackery, which are practised in these complaints, as well as in all others, but of more imposing specifics, handed down from parents to their children, with circumstantial records of the cures they have performed, after the advice of the most eminent men of the faculty had been followed in vain. The accounts given of such cures by persons wholly ignorant of physic, are not entitled to the least regard. I do not question their veracity, so far as their knowledge extends; but what can they say more than that the fits ceased after taking the pretended remedy? How do they know, whether this was the effect of its operation or not; and, if it was, whether, in stopping the fits, their wonderworking nostrum may not have vitiated the humors, laid the foundation of some other disease, or totally destroyed the constitution? Ought the evidence of such people to have any weight in medical experiments? If their assertions are not false, most of them are palpably absurd; and the testimony of all mankind cannot prove the truth of an absurdity.

CHAP. XVI.

OF AN ACUTE CONTINUAL FEVER.

THIS fever is denominated acute, ardent, or inflammatory. It most commonly attacks the young, or persons about the prime and vigor of life, especially such as live high, abound with 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.—An ardent fever may be occasioned by anything that overheats the body, or produces plethora, as violent exercise, sleeping in the sun, drinking strong liquors, eating spices, a full diet, with little exercise, &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, or the like.

SYMPTOMS.—A rigor 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 generally appears black and rough.

A delirium, excessive restlessness, great oppression of the breast, with laborious respiration, starting of the tendons, hickup, cold, clammy sweats, and an involuntary discharge of urine, are very dangerous 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. Nothing can be more unaccountable than the conduct of those who have it in their power, at the beginning of a fever, to procure the best medical assistance, yet put it off till things come to an extremity. When the disease, by delay or wrong treatment, has become incurable, and has exhausted the strength of the patient, it is vain to hope for relief from medicine. Physicians may indeed assist nature; but their attempts must ever prove fruitless, when she is no longer able to co-operate with their endeavors.

REGIMEN.—From the symptoms of this disease, it is evident, that the blood and other humors 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 humors, 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 with 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 spoonfuls of vinegar, will have the same effect. Two or three spoonfuls 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 following rule may be adopted with safety, respecting the use of cool or cold drinks in febrile complaints: So long as the skin is hot and dry, with thirst, so long the patient may drink cold water, or other cool drink, freely, provided it produces no sense of weight or coldness in the stomach. When the heat of the surface abates, and a perspiration takes place, the thirst will abate, and with it the temptation to drink too much. I have acted on this rule for more than ten years without the occurrence of a single accident in consequence.' C.

* See Appendix, *Pectoral Decoction*.

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, panada, 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 rosewater, 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.

MEDICINE.—In this and all other fevers, attended with a hard, full, quick pulse, bleeding is of the greatest importance. This operation ought always to be performed as soon as the symptoms of an inflammatory fever appear. The quantity of blood to be taken away, however, must be in proportion to the

strength of the patient and the violence of the disease. 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 twentyfour 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 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 rosewater, 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.

If the patient be afflicted with retching, or an inclination to vomit, it will be right to assist nature's attempts, by giving him weak chamomile tea, or lukewarm water, to 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, or cream of tartar, may be frequently put into his drink. He may likewise eat tamarinds, boiled prunes, roasted apples, and the like.

If, about the tenth, eleventh, or twelfth day, the pulse become more soft, the tongue moister, and the urine begins to let fall a reddish sediment, there is reason to expect a favorable issue to the disease. But if, instead of these symptoms, the patient's spirits grow languid, his pulse sinks, and his breathing becomes difficult; with a stupor, trembling of the nerves, starting of the tendons, &c. there is reason to fear that the consequences will be fatal. In this case blistering plasters must be applied to the head, ankles, inside of the legs or thighs, as there may be occasion; poultices of wheat bread, mustard and vinegar, may likewise be applied to the soles of the feet, and the patient must be supported with cordials, as strong wine whey, negus, sago gruel, with wine in it, and such like.

A proper regimen is not only necessary during the fever, but likewise after the patient begins to recover. By neglecting this, many relapse, or fall into other diseases, and continue valetudinary for life. Though the body be weak after a fever, yet the diet for some time ought to be rather light than of too nourishing a nature. Too much food, drink, exercise, company, &c. are carefully to be avoided. The mind ought like-

wise to be kept easy, and the patient should not attempt to pursue study, or any business that requires intense thinking.

If the digestion be bad, or the patient be seized at times with feverish heats, an infusion of Peruvian bark in cold water will be of use. It will strengthen the stomach, and help to subdue the remains of the fever.

When the patient's strength is pretty well recovered, he ought to take some gentle laxative. An ounce of tamarinds and a drachm of senna may be boiled for a few minutes in an English pint of water, and an ounce of manna dissolved in the decoction; afterwards it may be strained, and a teacupful drank every hour till it operates.

Those who follow laborious employments ought not to return too soon to their labor after a fever, but should keep easy till their strength and spirits are sufficiently recruited.

It requires very little argument to prove, that the body as well as the mind must require indulgence after the severity of such a disease. But I find it more difficult to prevent people from carrying this indulgence to excess in what relates to eating and drinking. The appetite is usually voracious upon recovering from most fevers, and to say that its cravings are not to be satisfied is certainly an unpalatable doctrine. Yet self command is necessary in such cases, as there will be great danger, not only of a relapse, but of other disagreeable consequences, such as biles, ulcers, and settled swellings in particular limbs. These may be obviated by a light and principally vegetable diet, not however totally excluding animal food of easy digestion.

Though I have taken much pains to convince people of the propriety of getting the best medical assistance they can, upon the first attacks of a fever, before it becomes, by delay or wrong treatment, incurable, yet the number is astonishing of those who are the victims of their own fatal neglect in this particular. Some, under a pretence of trusting to the efforts of nature, but in reality too conceited of their own strength, and too self willed to take advice, endeavor to keep upon their legs, as they term it, and to struggle with the disease as long as they can. Its violence is increased by this very attempt. The bed alone would in many cases stop a beginning fever, the posture contributing to relax the spasms, and to lessen the ardor of the circulation.

Others pursue a very opposite, but no less reprehensible method. On the first alarm, they have recourse to the most pernicious means of exciting sweats by taking hot and volatile sudorific medicines; shutting out the air from all possible ad-

mission into their chambers, and smothering themselves under enormous loads of bed clothes. The heat and motion of the blood, already too violent, are thus increased; fuel is added to the fire; and sweating is in reality prevented; for the higher the fever, the less copious will be the evacuations of every kind. Perspiration is best promoted by a proper quantity of diluting liquids, which at the same time quench the patient's thirst, and abate the pains of the breast and difficulty of breathing.

I can do no more than fairly state the consequences of such errors. The ways followed by these two descriptions of people, however different, terminate in the same point, and that is, the grave. Fevers make a dreadful havoc among the human race, but their ravages are considerably increased by the misconduct and perverseness of the unfortunate sufferers themselves.

CHAP. XVII.

OF THE PLEURISY.

THE true pleurisy is an inflammation of that membrane called the *pleura*, which lines the inside of the breast. It is distinguished 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*, in which the pain is more external, and chiefly affects the muscles between the ribs. The pleurisy prevails among laboring 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 smallpox. 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. ren-

ders it more liable to this disease. A pleurisy may likewise be occasioned by violent exercise, as running, wrestling, leaping, or by supporting a 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 colored; 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.

REGIMEN.—Nature generally endeavors 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 humors, 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.*

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

* See Appendix, *Pectoral Infusion.*

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 loose 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 stitch, 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, chamomile, 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 humors. 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.

* See Appendix, *Volatile Liniment*.

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 stitch 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 this 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 tablespoonfuls 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 teaspoonful of this frequently, when the cough is troublesome. Should oily medicines prove nauseous, which is sometimes the case, two tablespoonfuls of the solution of gum ammoniac in barley water may be given three or four times a day.‡

If the patient do not perspire, but has a burning heat upon his 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,—the decoction of the Sene-

* See Appendix, *Arabic Emulsion*. † See Appendix, *Oily Emulsion*.

‡ See Appendix, *Solution of Gum Ammoniac*.

ka rattlesnake root.* After bleeding and other evacuations have been premised, the patient may take two, three, or four tablespoonfuls 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.

No one will imagine, that these medicines are all to be used at the same time. We have mentioned different things on purpose that people may have it in their power to choose; and likewise, that, when one cannot be obtained, they may make use of another. Different medicines are no doubt necessary in the different periods of a disorder; and where one fails of success, or disagrees with the patient, it will be proper to try another.

What is called the crisis, or height of the fever, is sometimes attended with very alarming symptoms, as difficulty of breathing, an irregular pulse, convulsive motions, &c. These are apt to frighten the attendants, and induce them to do improper things, as bleeding the patient, giving him strong, stimulating medicines, or the like. But they are only the struggles of nature to overcome the disease, in which she ought to be assisted by plenty of diluting drink, which is then peculiarly necessary. If the patient's strength, however, 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 buttermilk, whey, and other things of a cleansing nature.

OF THE BASTARD PLEURISY.

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

* See Appendix, *Decoction of Seneka Root.*

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.

CHAP. XVIII.

OF A PERIPNEUMONY, OR INFLAMMATION OF THE LUNGS.

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.

CAUSES.—An inflammation of the lungs is sometimes a primary disease, and sometimes it is the consequence of other diseases, as a quinsy, a pleurisy, &c. It proceeds from the same causes as the pleurisy,—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 a *pleuro-peripneumony*.

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. 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 color very little changed.

REGIMEN, &c.—As the regimen and medicine are in all respects the same in the 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 decoctions 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 humors. If the patient has loose stools, but is not weakened by them, they are not to be stopped, but rather promoted by the use of emollient clysters.

The diet must be very slender, as weak broths, sharpened with the juice of orange or lemon, and such like. The drink may be thin water gruel, sweetened with honey, or a decoction of the roots of fennel, liquorice, and quickgrass. 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 this purpose in the pleurisy, as the solution of gum ammoniac with oxymel of squills, &c. Blistering plasters 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-spoonfuls of the solution mentioned above.

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 does not return after the inflammation is to all appearance removed; if his pulse continues quick though soft, his breathing difficult and oppressed; if he has cold shiverings at times, his cheeks flushed, his lips dry; and if he complains 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 this disease.

CHAP. XIX.

OF CONSUMPTIONS.

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 endeavor 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 this 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, diarrhœa, 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 lessens 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, tailors, 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 had 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 scrofulous 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, 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 lives 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 the 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 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 cooling nature. All the diet ought to be calculated to lessen the acrimony of the humors, 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 twentyfour hours, should be able to produce any considerable change in the humors 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.

* 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 work wonders in this dreadful disorder.

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 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 this 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 buttermilk 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 to it 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 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 gooseberry or currant 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 nourish-

* 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.

A. P. B.

† Sheffield.

ing 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.

The patient's mind ought to be kept as easy and cheerful as possible. Consumptions are often occasioned, and always aggravated, by a melancholy cast of mind; for which reason music, cheerful company, and everything that inspires mirth, are highly beneficial. The patient ought seldom to be left alone, as brooding over his calamities is sure to render him worse.

MEDICINE.—Though the cure of this disease depends chiefly upon regimen and the patient's own endeavors, yet we shall mention a few things which may be of service in relieving some of the more violent symptoms.

In the first stage of a consumption, the cough may sometimes be appeased by bleeding; and the expectoration may be promoted by the following medicines: Take fresh squills, gum ammoniac, and powdered cardamom seeds, of each a quarter of an ounce; beat them together in a mortar, and if the mass prove too hard for pills, a little of any kind of syrup may be added to it. This may be formed into pills of a moderate size, and four or five of them taken twice or thrice a day, according as the patient's stomach will bear them.

The *lac ammoniacum*, or milk of gum ammoniac, as it is called, is likewise a proper medicine in this stage of the disease. It may be used as directed in the pleurisy.

A mixture, made of equal parts of lemon juice, fine honey, and syrup of poppies, may likewise be used. Four ounces of each of these may be simmered together in a saucepan, over a gentle fire, and a tablespoonful of it taken at any time when the cough is troublesome.

It is common, in this stage of the disease, to load the patient's stomach with oily and balsamic medicines. These, instead of removing the cause of the disease, tend rather to increase it by heating the blood, while they pall the appetite, relax the solids, and prove every way hurtful to the patient. Whatever is used for removing the cough, besides riding and other proper regimen, ought to be medicines of a sharp and cleansing nature; as oxymel, syrup of lemon, &c.

Acids seem to have peculiarly good effects in this disease;

* I have often known persons of a consumptive habit, where the symptoms were not violent, reap great benefit from the use of oysters. They generally ate them raw, and drank the juice along with them. They are often more easily digested after being heated, or cooked.

they both tend to quench the patient's thirst, and to cool the blood. The vegetable acids, as apples, oranges, lemons, &c. appear to be the most proper. I have known patients suck the juice of several lemons every day with manifest advantage, and would for this reason recommend acid vegetables to be taken in as great quantity as the stomach will bear them.

For the patient's drink, we would recommend infusions of the bitter plants, as ground ivy, the lesser centaury, chamomile 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 conserve 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.

When the spitting up of gross matter, oppression of the breast, and the hectic symptoms, show that an imposthume is formed in the lungs, we would recommend the Peruvian bark, that being the only drug, which has any chance to counteract the general tendency which the humors then have to putrefaction.

An ounce of the bark in powder may be divided into eighteen or twenty doses, of which one may be taken every three hours through the day, in a little syrup, or a cup of horehound tea.

If the bark should happen to purge, it may be made into an

* The decoction of the 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.

A. P. B.

† See Appendix, *Vulnerary Decoction*.

electuary, with the conserve of roses, thus:—Take old conserve of roses, a quarter of a pound; Peruvian bark, a quarter of an ounce; syrup of orange or lemon, as much as will make it of the consistence of honey. This quantity will serve the patient four or five days, and may be repeated as there is occasion.

Such as cannot take the bark in substance, may infuse it in cold water. This seems to be the best solvent for extracting the virtues of this drug. Half an ounce of bark in powder may be infused for twentyfour hours in half an English pint of water. Afterwards, let it be passed through a fine strainer, and an ordinary teacupful of it taken three or four times a day.

We would not recommend the bark while there are any symptoms of an inflammation of the breast; but when it is certainly known that matter is collecting there, it is one of the best medicines which can be used. Few patients, indeed, have resolution enough to give the bark a fair trial at this period of the disease; otherwise we have reason to believe, that some benefit might be reaped from it.

When it is evident that there is an imposthume in the breast, and the matter can neither be spit up nor carried off by absorption, the patient must endeavor to make it break inwardly, 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 vomica 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, buttermilk or whey, sweetened with honey. This is likewise a proper time for using the Peruvian bark, which may be taken as directed above.

If the vomica or imposthume should discharge itself 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.

A NERVOUS CONSUMPTION 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, chamomile, 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 scrofula, 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 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

* See Appendix, *Chalybeate Wine*.

only hurt the digestion, and spoil the appetite, but heat and inflame the blood, and set the whole constitution on fire.

At the beginning of this chapter I inserted an observation of Dr. Arbuthnot, that, in his time, consumptions made up above one tenth part of the bills of mortality in and about London. I also expressed my fear, that the proportion was now greater, though I had not made the calculation. My reason for thinking so is, that the education of young people becomes every day more effeminate, and that an effeminate education produces a delicacy of habit, which paves the way to consumption. As all the other causes of a decline operated with as much force about fifty years ago as they do now, the increase in the number of victims can only be ascribed to the enervating change which has taken place in the physical treatment of children. The seeds of disease are sown, as it were, in the cradle, and the fountain of life is poisoned at its source.

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 that 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.

An ignorant man advertises a syrup for the cure of consumptions. The people swallow it; and the man gets a fortune, though he never cured a consumption in his life. Indeed, there is no occasion for the quack to cure any disease. The patient imagines he feels relief, and that answers the quack's purpose as much as if he really did. Even if he feels no relief, he will say that he does. No man will suffer his understanding to be impeached for having applied to a quack, when he can so easily get rid of the laugh by pretending to have experienced great benefit from the medicine.

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 till 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 overexertion, in consequence of the stoppage of some customary 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 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; 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 faces, 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 fetal 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 examin-

ed 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 color, 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 consumption. This fact not only furnishes a strong motive for endeavoring 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 further 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 are 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 uncountable 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, Dr. Rush informs us, that pulmonary 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 endeavor 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 hothouse are least able to bear the blasts of winter. Contrast the leaden-colored visage, and the chilblained 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 vigor.

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 adviseable 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 neighborhood 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 the 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 overdilated, must be prone to rupture. At this period of life, too, there is evidently an effort of the constitution endeavoring to expand every part to a state of full perfection. This is evinced by frequent discharges of blood from the nose. The vessels of this part rea-

dily 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 vapor 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 endeavor to escape by the lungs, as being an internal, and therefore a warmer surface. It is not surprizing, 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 overheated, 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 endeavoring 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 preeminent manner, for the preservation of health, should have in modern times fallen so completely into neglect, it is not perhaps easy to account; though 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 favorable season for this practice is not immediately on getting out of bed. There exists a sensibility of the skin at this 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 till a universal redness and glow take 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 furfuraceous 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 in 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 chilliness. 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 harrass him for months, while his wife was lingering under this 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 characterizing 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 unfavorable 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 blister, sometimes appears to arrest the progress of the disease.

When symptoms of incipient phthisis have been accompanied by tumors, 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 frequency of the pulse, (*digitalis*), I am sorry to say, I have seen no permanent benefit produced in this disease; and, notwithstanding the boasts of empiricism, a remedy that will resolve tubercles, or heal ulceration of the lungs, I believe yet remains to be discovered.'
A. P. B.

The following remarks on the use of flannel, taken from Dr. John Armstrong's Treatise on Pulmonary Consumption, are too valuable to be omitted in this place:

"When flannel is worn next the skin, Dr. Barlow remarks, it is almost invariably the practice to keep it on by night as well

* 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 consumption almost unknown. Of course these islands must be an excellent situation for persons of a phthisical temperament.

as by day. This is not only unnecessary, but injurious. The chief advantage of using a flannel dress next the skin results, not from the actual warmth imparted or retained, an effect which might be obtained to an equal extent by an increase of outward clothing ; but from the uniformity of temperature thus ensured to so large a portion of the surface of the body, and the tendency which this has to keep the highly important, but too much neglected functions of the skin, in an active and healthy condition. During the day the frequent, and oftentimes sudden vicissitudes of our climate are such as to render the effects of flannel in preserving an equality of temperature most valuable. But at night, and during sleep, we are subject to no such vicissitudes ; consequently the same necessity for the use of flannel does not then exist. But while the use of flannel at night thus appears to be unnecessary, there are several considerations which show it to be injurious. These considerations regard both the condition of the body and of the flannel itself. Whatever the wants of the body for warmth, during the night, may be, they are in general fully supplied by the bed clothes in ordinary use. The body requires no extraordinary warmth during sleep ; on the contrary, there is at such times even a tendency to an increase of the natural warmth. When to this natural tendency the heat caused by flannel worn next the skin is superadded, the effect is to keep the skin in a state of considerable excitement, and to induce perspiration more or less profuse. These effects are not calculated to prepare the body for enduring the vicissitudes of the ensuing day, but rather to render it more susceptible of injury. Again, continues Dr. Barlow, the property which renders woollen cloth so eminently suited to the purposes in view, is that of its being a slow conductor of heat. This property is directly proportionate to its dryness ; and is greatly impaired by its imbibing humidity of any kind. A flannel dress, however, that is worn next the skin throughout the night, becomes so charged with perspiration, that its power of conducting heat is thereby greatly increased, and its preservative effects proportionably diminished. Here, then, is a twofold injury resulting from the prevailing practice of continuing the flannel dress during sleep ; namely, a diminution of the preservative powers of the flannel, and an increased susceptibility of the skin. By laying aside the flannel dress on going to bed, and substituting one of coarse calico, the body is kept in that temperature during the night, which fits it for encountering the vicissitudes of the following day, while the flannel is preserved from the deteriorating effects of the nightly perspira-

tion, and is resumed in the morning in a state which contributes both to comfort and protection. A difficulty, Dr. Barlow subjoins, is experienced with most people, who have accustomed themselves to the nightly use of flannel, in inducing them to alter the habit. Fear of taking cold creates one great obstacle; and disinclination to the feeling of cold experienced in the moment of changing the flannel for the calico nightdress, especially in winter seasons, is another. Confidence in the medical adviser, however, is sufficient to overcome the first, and a very little experience to remove the latter; for, after a very few trials, the proposed change is found to prove a decided gain, even on the score of sensation, and the gratification derived from resuming dry and comfortable flannel in the morning, together with the sensible increase of its utility during the day, are found to compensate amply the slight unpleasantness attending the momentary exposure of the preceding night.*

“Dr. Barlow justly observes, that, in many instances, the best interests of mankind, whether we consider their physical or moral welfare, are influenced by circumstances which the world are pleased to deem trivial; but the above suggestions on clothing will not be regarded as such by those who can appreciate the importance of the subject to which they relate, or the talents of the individual from whom they proceeded. These suggestions, indeed, of Dr. Barlow relate to the prevention of disease in general, but to that of phthisis in particular, the pathology of which I have proved to be closely connected with the skin; and to show how the state of this organ may influence the cure of this disease, it is worth mentioning, that I recently received, from a respectable correspondent, an account of two cases resembling phthisis, which were arrested, the one by an attack of pemphigus, and the other by that of smallpox.”

CHAP. XX.

OF THE SLOW OR NERVOUS FEVER.

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.

* This I have experienced to be exactly true. C.

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 dirty, low houses, crowded streets, hospitals, jails, or such like places.

Persons whose constitutions have been broken by excessive venery, frequent salivations, too free a 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 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.

SYMPTOMS.—Low 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, chilness and flushing in turns, &c.

After some time the patient complains of 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 favorable crisis.

But if there be an excessive looseness, or wasting sweats, with frequent fainting fits; if the tongue when put out trembles excessively, 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.

REGIMEN.—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 too 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, panada, 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.

MEDICINE.—Where a nausea, load, and sickness at the stomach,

* See Appendix, *Mustard Whey*.

† Where wine cannot be procured, I have witnessed equally beneficial effects 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 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 drachm 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.

prevail at the beginning of the fever, it will be necessary to give the patient a gentle vomit. Fifteen or twenty grains of ipecacuanha in fine powder, or a few spoonfuls of the vomiting julep,* will generally answer this purpose very well. This may be repeated any time before the third or fourth day, if the above symptoms continue. Vomits 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 a vomit may clean the bowels by a small dose of Turkey rhubarb, or an infusion of senna and manna.

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 a 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 bleeding is generally improper in this disease, yet blistering is highly necessary. Blistering plasters may be applied at all times of the fever with great advantage. If the patient is 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 the discharge occasioned by one blistering plaster abates, to apply another to some other part of the body, and by this means to keep up a continual succession of them till he be out of danger.

I have been more sensible of the advantage of blistering in this, than in any other disease. Blistering plasters not only stimulate the solids to action, but likewise occasion a continual discharge, which may in some measure supply the want of criti-

* See Appendix, *Vomiting Julep*.

cal evacuations, which seldom happen in this kind of fever. They are most proper, however, either towards the beginning, or after some degree of stupor has come on, in which last case it will always be proper to blister the head.

If the patient be costive through the course of the disease, it will be necessary to procure a stool, by giving him every other day a clyster of milk and water, with a little sugar, to which may be added a spoonful of common salt, if the above does not operate.

Should a violent looseness come on, it may be checked by small quantities of Venice treacle, or giving the patient for his ordinary drink the white decoction.*

A miliary eruption sometimes breaks out about the ninth or tenth day. As eruptions are often critical, great care should be taken not to retard nature's operation in this particular. The eruption ought neither to be checked by bleeding nor other evacuations, nor pushed out by a hot regimen; but the patient should be supported by gentle cordials, as wine whey, small negus, sago gruel with a little wine in it, and such like. He ought not to be kept too warm, yet a kindly breathing sweat should by no means be checked.

Though blistering and the use of cordial liquors are the chief things to be depended on in this kind of fever; yet for those who may choose to use them, we shall mention one or two of the forms of medicine which are commonly prescribed in it.†

In desperate cases, where the hiccup and starting of the tendons have already come on, we have sometimes seen extraordinary effects from large doses of musk frequently repeated. Musk is doubtless an antispasmodic, and may be given to the quantity of a scruple three or four times a day, or oftener if necessary. Sometimes it may be proper to add to the musk a few grains of camphor, and salt of hartshorn, as these tend to promote perspiration and the discharge of urine. Thus, fifteen grains of musk, with three grains of camphor, and six grains of salt of hartshorn, may be made into a bolus with a little syrup, and given as above.

* See Appendix, *White Decoction*.

† When the patient is low, ten grains of Virginian snakeroot, and the same quantity of contrayerva root, with five grains of Russian castor, all in fine powder, may be made into a bolus with a little of the cordial confection or syrup of saffron. One of these may be taken every four or five hours.

The following powder may be used with the same intention:—Take wild valerian root in powder one scruple, saffron and castor each four grains. Mix these by rubbing them together in a mortar, and give one in a cup of wine whey, three or four times a day.

If the fever should happen to intermit, which it frequently does towards the decline, or if the patient's strength should be wasted with colliquative sweats, &c. it will be necessary to give him the Peruvian bark. Half a drachm, or a whole drachm, if the stomach will bear it, of the bark, in fine powder, may be given four or five times a day in a glass of red port or claret. Should the bark in substance not sit easy on the stomach, an ounce of it in powder may be infused in a bottle of Lisbon or Rhenish wine for two or three days, afterwards it may be strained, and a glass of it taken frequently.*

Some give the bark in this and other fevers, where there are no symptoms of inflammation, without any regard to the remission or intermission of the fever. How far future observations may tend to establish this practice, we will not pretend to say; but we have reason to believe, that the bark is a very universal febrifuge, and that it may be administered with advantage in most fevers, where bleeding is not necessary, or where there are no symptoms of topical inflammation.

There is no fever that requires to be watched with more care and attention than this. If the actions of the system are not kept up by stimulating applications, and the patient's strength supported by cordial medicines and nourishing diet, he will sink under the disease; and it frequently happens, that, when the attendants think him better, he is actually dying.

I wish to inspire not only patients in this fever, but their physicians also, with unceasing, unabated hope till the very last extremity. 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 this patient, to my great satisfaction, recovered, and enjoyed health for many years after.

* The bark may likewise be very properly administered, with other cordials, in the following manner:—Take an ounce of Peruvian bark, orange peel half an ounce, Virginian snakeroot two drachms, saffron one drachm. Let all of them be powdered, and infused in an English pint of the best brandy for three or four days. Afterwards the liquor may be strained, and two teaspoonfuls of it given three or four times a day in a glass of small wine or negus. I now generally administer Huxham's Tincture.

CHAP. XX.

OF THE MALIGNANT, PUTRID, OR SPOTTED FEVER.

THIS 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 vigor has been wasted by long fasting, watching, hard labor, 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 carcasses 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 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 clapped; 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 fetid, and are sometimes of a greenish, black or reddish cast. Spots of a pale, purple, dun, or black color, often appear upon the skin, and sometimes there are violent hemorrhages 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 color, 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; some-

times 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 favorable 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 favorable, 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 favorable symptom,* as are abscesses in the groin, or parotid glands.

Among the unfavorable 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 starting 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 fetid, ichorous, involuntary stools, attended with coldness of the extremities, are generally the forerunners of death.

REGIMEN.—In the treatment of this disease, we ought to endeavor, as far as possible, to counteract the putrid tendency of the humors; 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 humors are in a putrid state.

Besides the frequent admission of fresh air, we would recommend the use of vinegar, verjuice, juice of lemon, Seville

* Deafness is not always a favorable symptom in this disease. Perhaps it is only so, when occasioned by abscesses formed within the ears.

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.

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 teaspoonful 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 chamomile 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 panada, 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 humors; 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 chamomile 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 humors.

MEDICINE.—If a vomit 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 elysters, 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 is 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 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 into a sweat. This practice is very proper, provided it be not pushed so far as to weaken the patient.

A very ridiculous notion has long prevailed, of expelling the poisonous matter of malignant diseases by trifling doses of cordial or alexipharmic medicines. In consequence of this notion, the contrayerva root, the cordial confection, the mithridate, &c. have been extolled as infallible remedies. There is reason however to believe, that these seldom do much good. Where cordials are necessary, we know none that is superior to good wine; and therefore again recommend it both as the safest and best. Wine, with acids and antiseptics, are the only things to be relied on in the cure of malignant fevers.

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, 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 tablespoonfuls 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.

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 salt of wormwood, 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.

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 a 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.*

* The late Sir John Pringle expressed a concern lest these cautions should prevent people from attending their friends or relations when afflicted with putrid fevers. I told him I meant only to discourage unnecessary attendance, and mentioned a number of instances where putrid fevers had proved fatal to

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 a vomit, and to work it off by drinking plentifully of chamomile tea. This may be repeated in a day or two, if the apprehensions still continue, or any unfavorable symptoms appear.

The person ought likewise to take an infusion of the bark and chamomile 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 follow this course when malignant fevers prevailed, and have likewise recommended it to others with constant success.

People generally fly to bleeding and purging as antidotes against infection; but these are so far from securing them, that they often, by debilitating the body, increase the danger.

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.*

I wished strongly to characterize this disease by calling it the *pestilential fever of Europe*. It is certain that in our island nothing approaches so near the plague as the putrid or spotted

persons, who were rather hurtful than beneficial to the sick. This sagacious physician 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.

* 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. A. P. B.

fever. I have often marked its ravages in the narrow lanes of London, but still more frequently in some of the unclean and shamefully neglected seats of putrefaction in the environs. I have seen it in its most horrid form in St. George's Fields, particularly in the King's Bench Prison; and am afraid the day will come, when the real pestilence will be generated in that quarter.

Four hundred thousand people living in a marsh, where there is not the least fall or descent to carry off the perpetually accumulating filth, must in time produce some dreadful putrid disorder. How justly may one apply to the atmosphere of such a place the words of the medical poet, and say, that it is not air the inhabitants breathe, but volatile corruption! Yet this marsh, by means of sluices or proper drains, might be rendered as healthy a place of residence as any in London, which is, perhaps, the most wholesome city of its size in the world. I shudder at the idea, that the stagnant mass of so much contagion should be viewed with indifference, and that no steps are likely to be taken to avert the danger, till a terrible sweep of mortality shall spread alarm through the whole kingdom.

To show how nearly our putrid fevers resemble the plague, I shall give a short sketch of one that I attended some years ago at Kentish Town. A young lady, about eighteen years of age, who had come from the West Indies for her education, was seized with the common symptoms of a nervous fever; but this continuing a very unusual length of time, putrefaction began to show itself, and biles and imposthumes burst forth, and penetrated so deeply as to lay the bones bare, to an amazing extent, on the back, hips, and various parts of the body; nor were these healed without much time and trouble. By the use of wine, bark, and other cardiac and antiseptic medicines, a perfect cure was at length effected; and, what may be particularly deserving of notice, the young lady at one period had no sustenance for several days, but what she received from sipping a little brandy. The nature of a supplementary remark will not permit me to enter into all the details of the case, however curious; but I must not omit mentioning one circumstance more, which was, that the nurse, for reasons best known to herself, yet easily guessed at, went often to the lady under whose care my patient was, and complained that she never saw such a doctor, *for he would not let her poor young lady die.*

CHAP. XXII.

OF THE 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 smallpox, 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 vigor 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 color 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 fetid 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 may appear at any time of the disease.

Sometimes the pustules appear and vanish by turns. When this 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 color. 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 too 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, panada, 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 decoction mentioned below.*

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.†

* 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.

† In the *Commercium Literarium* for the year 1735, we have the history of an epidemical miliary fever, which raged at Strasburgh in the months of November, December, and January; from which we learn the necessity of a temperate regimen in this malady, and likewise that physicians are not always the first who discover the proper treatment of diseases. "This fever made terrible havoc, even among men of robust constitutions, and all medicine proved in vain. They were seized in an instant with shivering, yawning, stretching, and pains in the back, succeeded by a most intense heat; at the same time there was a great loss of strength and appetite. On the seventh or ninth day the miliary eruptions appeared, or spots like flea bites, with great anxiety, a delirium, restlessness and tossing in bed. Bleeding was fatal. While matters were in thus unhappy situation, a midwife, of her own accord, gave to a patient, in the height of the disease, a clyster of rain water and butter without salt, and for his ordinary drink a quart of spring water, half a pint of generous wine, the juice of a lemon, and six ounces of the whitest sugar, gently boiled till a scum arose, and this with great success; for the belly was soon loosened, the grievous symptoms vanished, and the patient was restored to his senses, and snatched from the jaws of death." This practice was imitated by others with the like happy effects.

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 childbed 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 evacuation 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 childbed 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.

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 childbed, 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 symptom.

Death would often be the consequence of inattention or neglect in these cases; and, perhaps, a stronger proof cannot be given of what I have already pointed out, but cannot too often inculcate, the extreme folly of using or recommending any general fever medicine, when even the same fever may require, at different periods, very different modes of treatment. Really, it is not less ridiculous to prescribe one medicine for all fevers, than for all diseases. The quackery in the first instance may appear to the ignorant and thoughtless more plausible; but is on this account more dangerous.

CHAP. XXIII.

OF THE REMITTING FEVER.

THIS fever takes its name from a remission of the symptoms, which happen 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, the fever approaches to a regular intermittent, the less is the danger.

CAUSES.—Remitting 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, the province of 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 relaxed habit, who live in low, dirty habitations, breathe an impure, stagnant air, take little exercise, and use unwholesome diet.

SYMPTOMS.—The first symptoms of this fever are generally yawning, stretching, pain, and giddiness in the head, with alter-

nate 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 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.

REGIMEN.—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 a 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, bedclothes, &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.*

* The ingenious Dr. Lind, of Windsor, in his inaugural dissertation concerning the putrid remitting fever of Bengal, has the following observation: "Indusia, Iodices, ac stragula, sæpius sunt mutanda, ac aëri exponenda: fæces sordesque quam primum removendæ, oportet etiam ut loca quibus ægri decumbent sint salubria et aceto conspersa; denique ut ægris cura quanta maxima prospiciatur. Compertum ego habeo, medicum hæc sedula observantem, quique ea exequi potest, multo magis ægris profuturum, quam medicum peritiorum, hisce comodis destitutum."

"The patient's shirt, bedclothes, and bedding, ought frequently to be changed, and exposed to the air, and all his excrements immediately remov-

MEDICINE.—In order to cure this fever, we must endeavor to bring it to a regular intermission. This intention may be promoted by bleeding, if there be any signs of inflammation; but when this is not the case, bleeding ought by no means to be attempted, as it will weaken the patient and prolong the disease. A vomit, however, 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 grain 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.

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.

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.

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 ex-

ed; the bedchamber 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."

posed. These brave, but thoughtless men, should, therefore, be obliged to pay more attention to the simple preservatives from the 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 further 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 honor and security of their country, in saving the lives, and promoting the health and vigor, of its gallant defenders.

CHAP. XXIV.

OF THE VACCINE DISEASE, OR COWPOCK.

ONE of the most remarkable and important phenomena in the history of animal nature, is the *cowpock*. This malady appears on the teats of cows in the form of pustules. Its power to prevent the infection of smallpox was noticed in a periodical work published by Mr. Steinbeck, at Gottingen, in the year 1769; and Dr. Barry, of Cork, has asserted, in a letter to Dr. Pearson of Leicester Square, London, that the cowpock has been known in Ireland from time immemorial; in the neighborhood of Cork it has been called *Shinagh*, a term which belongs to the ancient language of the country. This disorder is known in most of the counties in England; in Gloucestershire, in particular, it has been long supposed, that those persons who had received the cowpock were thereby rendered secure against the smallpox.

In the year 1798; Dr. Jenner, who had long resided in the county of Gloucester, published observations on the nature and properties of this disease, which, by the active assistance of Dr. Pearson and the late Dr. Woodville, soon attracted a considerable degree of the public attention; for the late Dr. Buchan had justly and long before observed, that "The benefits of inoculation" (of the smallpox) "cannot be extended to society by any other means than making the practice general. While it is confined to a few, it must prove hurtful to the whole. By means of inoculation the contagion is spread, and is communicated to many, who might otherwise never have had the disease. Accordingly, it is found, that nearly the same number," nay more, "die of the smallpox now, than before the practice of inoculation was introduced."

A multitude of proofs might be adduced of the justice of our author's assertions, and of the necessity of legislative interference in this momentous business; but our limits confine us to the following extract from the monthly report of the prevailing diseases in a particular part of London by an eminent physician :

"I cannot here pass over a striking instance of the bad effects arising from partial inoculation. A child was inoculated in April, whose parents kept a shop in a court consisting of about twenty houses. As the inhabitants repaired every day for necessary articles to the source of infection, the consequence was, that sixteen of them were affected with the smallpox in the natural way within a fortnight after the child's recovery, and four of them died of the disease."—See *Monthly Mag. May, 1796, p. 326.*

Having had occasion to regret many similar instances of the havoc made by this loathsome and destructive distemper, we read with much satisfaction, which however was not unalloyed by a considerable portion of distrust, Dr. Jenner's account of the advantages of the cowpock inoculation over that of the smallpox. They are represented by this author to be, 1. Its uniform mildness; that of two thousand persons inoculated with the cowpock, not one died; and therefore it may be practised at all ages with safety. 2. That it is not communicable by effluvia, and therefore any part of the family may be infected without affecting the rest. 3. It does not disfigure the skin. 4, and lastly, Persons who have once been affected with the cowpock are thereby rendered incapable of variolous infection.

It was not, however, till we had seen several hundred patients inoculated; till, as far as circumstances would possibly permit, we had traced the effect of the cowpock; it was not till we were assured by the late Dr. Woodville, (whom we had known longer than any governor of the Smallpox Hospital, and whose experience on this subject carries the highest authority;) it was not till Dr. W. assured us that he had communicated the vaccine disease to upwards of a thousand persons, who had afterwards been inoculated with variolous matter, and of whom *none* took the smallpox; it was not before this, that we recommended, as we now conscientiously do, the practice of vaccination.

The grand objection to the cowpock inoculation seems to be, that it does not universally, and without exception, produce the effect it is intended to produce; that is, that it does not, in all cases, and without exception, prevent the infection

by natural or inoculated smallpox. Granting that there may have been even well authenticated instances of persons vaccinated in a *proper manner* having, notwithstanding, yielded to the other infection; granting all this, we say, it is no solid objection to the practice of vaccination. The true and real objection, if such a thing exists, is whether vaccination be *dangerous*; whether any considerable number of persons vaccinated in *proper circumstances* have *died*, or become *dangerously ill* in consequence of vaccination; and whether these numbers equally or nearly approach to the numbers that have died by the natural smallpox, or in consequence of the common mode of inoculation. This is the true criterion. If smallpox and cowpock stand on the same ground in this respect, the apparent failures of the latter, even supposing they were much more numerous than has ever been pretended, afford no argument against the practice of vaccination.

The Peruvian bark sometimes fails to cure the ague, and other disorders, for which it is generally deemed a specific. Mercury sometimes fails to cure certain cases of the *lues venerea*. Shall *cinchona* and *quicksilver* be excluded from the *materia medica*, because, once in a thousand times, they do not produce the effect for which they, agreeably to universal experience, are usually administered?

Shall vaccination be exploded, because there may have occurred rare instances, either from unskilful management, or owing to an uncommon peculiarity of the habit and constitution, of its not having prevented smallpox, or rendered the person for ever unsusceptible of variolous contagion?

Attestations of its complete success have been published by a great number of the faculty at Edinburgh, Liverpool, and Dublin. Our readers will find able and satisfactory answers to all the objections that have been urged against the JENNERIAN practice in the following

REPORT.

“The Medical Council of the Royal Jennerian Society, having been informed that various cases had occurred, which excited prejudices against vaccine inoculation, and tended to check the progress of this important discovery in this kingdom, appointed a Committee of twentyfive of their members to inquire, not only into the nature and truth of such cases, but also into the evidence respecting instances of smallpox alleged to have occurred twice in the same person.

“In consequence of this reference, the Committee made diligent inquiry into the history of a number of cases, in which it

was supposed that vaccination had failed to prevent the smallpox, and also of such cases of smallpox as were stated to have happened subsequently to the natural or inoculated smallpox.

“In the course of their examination the Committee learned, that opinions and assertions had been advanced and circulated, which charged the cowpock with rendering patients liable to particular diseases, frightful in their appearance, and hitherto unknown; and judging such opinions to be connected with the question as to the efficacy of the practice, they thought it incumbent on them to examine also into the validity of these injurious statements respecting vaccination.

“After a very minute investigation of these subjects, the result of their inquiries has been submitted to the Medical Council; and from the report of the Committee it appears,

“I. That most of the cases which have been brought forward as instances of the failure of vaccination to prevent the smallpox, and which have been the subjects of public attention and conversation, are either wholly unfounded or grossly misrepresented.

“II. That some of the cases are now allowed, by the very persons who first related them, to have been erroneously stated.

“III. That the statements of such of those cases as are published have, for the most part, been carefully investigated, ably discussed, and fully refuted, by different writers on the subject.

“IV. That, notwithstanding the most incontestable proofs of such misrepresentations, a few medical men have persisted in repeatedly bringing the same unfounded and refuted reports and misrepresentations before the public, thus perversely and disingenuously laboring to excite prejudices against vaccination.

“V. That in some printed accounts adverse to vaccination, in which the writers had no authenticated facts to support the opinions they advanced, nor any reasonable arguments to maintain them, the subject has been treated with indecent and disgusting levity; as if the good or evil of society were fit objects for sarcasm and ridicule.

“VI. That, when the practice of vaccination was first introduced and recommended by Dr. JENNER, many persons, who had never seen the effects of the vaccine fluid on the human system, who were almost wholly unacquainted with the history of vaccination, the characteristic marks of the genuine vesicle, and the cautions necessary to be observed in the management of it, and were therefore incompetent to decide whether patients were properly vaccinated or not, nevertheless ventured to inoculate for the cowpock,

“VII. That many persons have been declared duly vaccinated, when the operation was performed in a very negligent and unskilful manner, and when the inoculator did not afterwards see the patients, and therefore could not ascertain whether infection had taken place or not; and that to this cause are certainly to be attributed many of the cases adduced in proof of the inefficacy of the cowpock.

“VIII. That some cases have been brought before the Committee, on which they could form no decisive opinion, from the want of necessary information as to the regularity of the preceding vaccination, or the reality of the subsequent appearance of the smallpox.

“IX. That it is admitted by the Committee, that a few cases have been brought before them of persons having the smallpox, who had apparently passed through the cowpock in a regular way.

“X. That cases, supported by evidence equally strong, have been also brought before them of persons who, after having once regularly passed through the smallpox, either by inoculation or natural infection, have had the disease a second time.

“XI. That, in many cases in which the smallpox has occurred a second time, after inoculation or the natural disease, such recurrences have been particularly severe, and often fatal; whereas, when it has appeared to occur after vaccination, the disease has generally been so mild, as to lose some of its characteristic marks, and even sometimes to render its existence doubtful.

“XII. That it is a fact well ascertained, that, in some particular states of certain constitutions, whether vaccine or variolous matter be employed, a local disease will only be excited by inoculation, the constitution remaining unaffected; yet that matter taken from such local vaccine or variolous pustule is capable of producing a general and perfect disease.

“XIII. That if a person, bearing the strongest and most indubitable marks of having had the smallpox, be repeatedly inoculated for this disease, a pustule may be produced, the matter of which will communicate the disease to those who have not been previously infected.

“XIV. That, though it is difficult to determine precisely the number of exceptions to the practice, the Medical Council are fully convinced, that the failure of vaccination, as a preventive of the smallpox, is a very rare occurrence.

“XV. That, of the immense number who have been vaccinated in the army and navy, in different parts of the United

Kingdom, and in every quarter of the globe, scarcely any instances of such failure have been reported to the Committee, but those which are said to have occurred in the metropolis or its vicinity.

“XVI. That the Medical Council are fully assured, that in very many places, in which the smallpox raged with great violence, the disease has been speedily and effectually arrested in its progress, and in some populous cities wholly exterminated, by the practice of vaccination.

“XVII. That the practice of inoculation for the smallpox, on its first introduction into this country, was opposed and very much retarded, in consequence of misrepresentations and arguments drawn from assumed facts, and of miscarriages arising from the want of correct information, similar to those now brought forward against vaccination, so that nearly fifty years elapsed before smallpox inoculation was fully established.

“XVIII. That, by reference to the bills of mortality, it will appear, that to the unfortunate neglect of vaccination, and to the prejudices raised against it, we may, in a great measure, attribute the loss of nearly two thousand lives by the smallpox, in this metropolis alone, within the present year.

“XIX. That the few instances of failure, either in the inoculation of the cowpock or of the smallpox, ought not to be considered as objections to either practice, but merely as deviations from the ordinary course of nature.

“XX. That, if a comparison be made between the preservative effects of vaccination and those of inoculation for the smallpox, it would be necessary to take into account the greater number of persons who have been vaccinated within a given time: as it is probable that, within the last seven years, nearly as many persons have been inoculated for the cowpock, as were ever inoculated for the smallpox, since the practice was introduced into the kingdom.

“XXI. That, from all the facts which they have been able to collect, it appears to the Medical Council, that the cowpock is generally mild and harmless in its effects; and that the few cases which have been alleged against this opinion, may be fairly attributed to peculiarities of constitution.

“XXII. That many well known cutaneous diseases, and some scrofulous complaints, have been represented as the effects of vaccine inoculation, when in fact they originated from other causes, and in many instances occurred long after vaccination, and that such diseases are infinitely less frequent after vaccination than after either the natural or inoculated smallpox.

“ Having stated these facts, and made these observations, the Medical Council cannot conclude the Report upon a subject so highly important and interesting to all classes of the community, without making this solemn Declaration :

“ That, in their opinion, founded on their own individual experience, and the information which they have been able to collect from that of others, mankind have already derived great and incalculable benefit from the discovery of vaccination ; and that it is their full belief, that the sanguine expectations of advantage and security, which have been formed from the inoculation of the cowpock, will be ultimately and completely fulfilled.”

This Report and Declaration was signed at the Society's House, *Salisbury Square, Fleet Street*, January 2, 1806, by fifty physicians and surgeons, who, we may safely presume to say, are not exceeded in medical skill, or intellectual worth, by any other fifty gentlemen of the profession in this great metropolis.

MEDICAL TREATMENT.—In general no medicine is required in this mild affection : but if the symptoms happen to run a little more high than usual, the same remedies are to be applied as if they proceeded from any other cause.

No preparation is necessary ; and no cathartics need be given either before or after vaccination.

Should inflammation of the arm exceed the usual bounds, which rarely happens but from tight sleeves, pressure, or friction, it may soon be checked by the very frequent application of compresses of linen dipped in weak lead water.

If the scab be rubbed off prematurely, and ulceration take place, cooling and astringent applications may be used, such as a drop of *aqua lythargyri acetati*, which should be allowed to dry on the part, and then be covered with compresses dipped in water, or any of the saturnine applications above mentioned, and frequently renewed.

When the ulceration is deep or extensive, a poultice, either of bread and milk, or of bread with any of the saturnine preparations, may be applied, as the case seems to require. They must never be applied till they are nearly or quite cold.

In such foul and obstinate sores as resist the foregoing applications, the ointment of nitrated quicksilver, the nitrated quicksilver or lunar caustic, or other similar applications, are sometimes resorted to with advantage. A single dressing with these substances is usually sufficient, after which the sore heals under the mildest applications.

Spurious pustules are frequently followed by ulceration at an early period. This ulceration is to be treated in the same manner as if it proceeded from the genuine species.

An assurance of perfect security from vaccine inoculation can only be obtained by carefully observing the whole progress of the disease. If any doubt remain, the operation ought to be repeated.

When the patient has been previously exposed to the infection of the smallpox, that disease will be superseded more or less, according to the time which is suffered to elapse before the inoculation of the cowpock.

The advantages of vaccine inoculation being now fully ascertained, it is the duty of every member of society, and particularly of every member of the medical profession, to discourage the inoculation of the smallpox.*

THE FAMILY RECORD.

‘In a little book, appropriated for the purpose, should be recorded the birth of each infant, with his weight, and any peculiarity of structure or condition.

Once a year, on a fixed day, the height and weight of each child should be noted, with the annual changes in his progress, relating to his acquirements, general state, and character, physical and moral, and whatever else may be worth knowing in future life.

In this history should be recorded the time and manner in which each individual may have passed through any of those diseases, which we have once only, as chincough, measles, cowpock, &c.; so that, whenever one of the family is to leave home, he may not be in doubt in regard to any of these complaints.

This information would prevent any painful apprehension where there is no danger, and any unconsciousness of danger where it really existed. This record, which is very easily kept, if continued to manhood, would furnish a complete natural history of each member of the domestic community, and might be of great value to the parent, the physician, or guardian, in the management of individuals under their care.

I have for a number of years kept such a record, and already find it more and more curious and interesting, and it certainly may prove to be something more than this.’ C.

* It seemed advisable to insert this chapter on cowpock in place of one on smallpox, though the source whence it originated is at present unknown. C.

CHAP. XXV.

OF THE MEASLES.

THE measles appeared in Europe about the same time with the smallpox, and have a great affinity to that disease. They both came from the same quarter of the world, are both contagious, 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 smallpox, proceeds from contagion, and is more or less dangerous, according to the constitution and state 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 defluxion 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 smallpox by their scarcely rising above the skin. The fever, cough, and difficulty of breathing, instead of being removed by the eruption, as in the smallpox, 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 fever, 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 favorable 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 color, it is an unfavorable symptom, as are also great weakness, vomiting, restlessness, and difficulty of swallowing. Purple or black spots, appearing among the measles, are very unfavorable. 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 endeavor to appease the most urgent symptoms, as the cough, restlessness, and difficulty of breathing.

REGIMEN.—The cool regimen is necessary in this disease. The food must be light, and the drink diluting. Acids, however, as they tend to exasperate the cough, should not be employed. 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 this should disagree with the stomach, a little manna may occasionally be added to them.

MEDICINE.—The measles being an inflammatory disease, without any critical discharge of matter, 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.

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 chamomile tea.

When the cough is very troublesome, with dryness of the throat, and difficulty of breathing, the patient may hold his

* 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.

head over the steam of warm water, and draw the vapor 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. These will soften the throat, and relieve the tickling cough.

If, at the turn of the disease, the fever assumes new vigor, and there appears great danger of suffocation, the patient must be bled according to his strength, and blistering plasters 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, the patient must be supported with wine and cordials. Blistering plasters 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.

When purple or black spots appear, the patient's drink should be sharpened with spirit of vitriol; and if the putrid symptoms increase, the Peruvian bark must be administered according to the circumstances of the case.

Opiates are sometimes necessary, but 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.

After the measles are gone off, the patient ought to be purged, unless the bowels should be duly open without it.

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; 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 buttermilk, 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.* He

* 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. A. P. B.

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.*

OF THE SCARLET FEVER.

THE scarlet fever is so called from the color 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.

There is seldom any occasion for medicine in 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 runs 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.†

The scarlet fever, however, is not always of so mild a na-

* Attempts have been made to communicate the measles, as well as the smallpox, by inoculation, and we make no doubt but in time the practice may succeed. Dr. Home of Edinburgh says, he communicated the disease by the blood. Others have tried this method, and have not found it succeed. Some think the disease would be more certainly communicated by rubbing the skin of a patient who has the measles with cotton, and afterwards applying the cotton to a wound, as in the smallpox; while others recommend a bit of flannel, which has been applied to the patient's skin all the time of the disease, to be afterwards laid upon the arm or leg of the person to whom the infection is to be communicated. There is no doubt but this disease, as well as the smallpox, may be communicated in various ways; the most probable, however, is either from cotton rubbed upon the skin as mentioned above, or by introducing a little of the sharp humor, which distils from the eyes of the patient into the blood. It is agreed on all hands, that such patients as have been inoculated, had the disease very mildly; we therefore wish the practice were more general, as the measles have of late become very fatal.

† Sydenham.

ture. 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. The only medicines that can be depended on in this case, are cordials and antiseptics, as the Peruvian bark, wine, snakeroot, and the like. The treatment must be in general similar to that of the putrid fever, or of the malignant ulcerous sore throat.†

OF THE 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.

* Edematous swellings of the ankles 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. A. P. B.

† In the year 1774, during winter, a very bad species of this fever prevailed in Edinburgh. It raged chiefly among young people. The eruption was generally accompanied with a quinsy, and the inflammatory symptoms were so blended with others of a putrid nature, as to render the treatment of the disease very difficult. Many of the patients, towards the decline of the fever, were afflicted with large swellings of the submaxillary glands, and not a few had a suppuration in one or both ears.

If there are symptoms of inflammation at the beginning of this fever, it will be necessary to bleed, and to put the patient upon the 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; and he may use the *white decoction* for his ordinary drink.* 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, this evacuation may be promoted by giving him, three or four times a day, a tablespoonful of Mindererus's spirit mixed in a cup 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.

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 this 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 neighboring 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.

* See Appendix, *White Decoction*.

† See Appen. *Spirit of Mindererus*.

CHAP. XXVI.

OF THE 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, an erysipelas will often ensue.* 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

* 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.

both eyes are generally closed with a swelling; and there is a difficulty of breathing. 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 is a violent pain in the armpit on the side affected, where an abscess is often formed.

If in a day or two the swelling subsides, the heat and pain abate, the color of the 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 humors 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 color 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 fistulas, 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, panada, 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.

MEDICINE.—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; 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 color of the part shows a tendency to mortification, the Peruvian bark must be administered. It may be taken along with acids, 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 spirit 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 woodst 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, buttermilk, and such like. They should never suffer themselves to be long costive. If this 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 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

* 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, this remedy ought to be administered in pretty large and frequent doses. Erysipelas seems frequently to be contagious; for this reason persons should not idly visit those who are afflicted by this disease.

A. P. B.

† See Appendix.

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.*

CHAP. XXVII.

OF THE PHRENITIS, OR INFLAMMATION OF THE BRAIN.

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 vigor 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

* There is a peculiar species of Erysipelas in this country termed Shingles, and by the ancients 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 colored fluid. The eruption makes its first appearance on some spot of the chest, and gradually extends laterally 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 drachm of white vitriol dissolved in eight ounces of rosewater. 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.

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 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, ringing 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 unfavorable 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 favorable 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 im-

properly 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 humored 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 basin, 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 panada, 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 render the liquor more palatable, but likewise more beneficial, as they are of an opening nature.

MEDICINE.—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 in 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.

A discharge of blood from the hemorrhoidal vein 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 twentyfour hours.

The head should be shaved, and frequently rubbed with vinegar and rosewater. Cloths dipped in this mixture may likewise be applied to the temples. The feet ought frequently to be bathed in lukewarm water, and soft poultices of bread and milk may be kept constantly applied to them.

If the disease proves obstinate, and does not yield to these medicines, it will be necessary to apply a blistering plaster to the whole head.

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.

CHAP. XXVIII.

OF THE 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, quicklime, 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 stedfastly 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 scrofulous or gouty habit. It may likewise be occasioned by hairs in the eyelids 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 scabbed heads, a running behind the ears, or any other discharge of this kind. Inflammations of the eyes often succeed the smallpox or measles, especially in children of a scrofulous 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 scalding tears, which rush forth in great quantities, whenever the patient attempts to look up. The pulse is generally quick and hard, with some degree of fever. When the disease is violent, the neighboring parts swell, and there is a throbbing or pulsation in the temporal arteries, &c.

A slight inflammation of the eyes, especially from an external cause, is easily cured; but when the disease is violent, and continues long, it often leaves specks on the eyes, or dimness of sight, and sometimes total blindness.

If the patient be seized with a looseness, it has a good effect; and when the inflammation passes from one eye to another, as it were by infection, it is no unfavorable symptom. But when the disease is accompanied with a violent pain in the head, and continues long, the patient is in danger of losing his sight.

REGIMEN.—The diet, unless in scrofulous cases, can hardly be too spare, especially at the beginning. The patient must abstain from every thing of a heating nature. His food should consist chiefly of mild vegetables, weak broths, and gruels. His drink may be barley water, balm tea, common whey, and such like.

The patient's chamber must be darkened, or his eyes shaded by a cover, so as to exclude the light, but not to press on the eyes.* He should not look at a candle, the fire, or any luminous object; and ought to avoid all smoke, as the fumes of tobacco, or any thing that may cause coughing, sneezing, or vomiting. He should be kept quiet, avoiding all violent efforts, either of body or mind, and encouraging sleep as much as possible.

MEDICINE.—This is one of those diseases wherein great hurt is often done by external applications. Almost every person pretends to be possessed of a remedy for the cure of sore eyes. These remedies generally consist of eye waters and ointments, with other external applications, which do mischief twenty times for once they do good. People ought, therefore, to be very cautious how they use such things, as even the pressure upon the eyes often increases the malady.

Bleeding, in a violent inflammation of the eyes, is always necessary. This should be performed as near the part affected

* The best kind of shade for tender eyes is formed by extending green gauze on wire properly constructed. By this contrivance the access of too much light is effectually impeded, while there is no interruption to the free access of the air, so that the eyes are not heated by this, as by the common shades of silk, or spectacles of green glass.

as possible. An adult may lose ten or twelve ounces of blood from the jugular vein, and the operation may be repeated according to the urgency of the symptoms. If it should not be convenient to bleed in the neck, the same quantity may be let from the arm, or any other part of the body.

Leeches are often applied to the temples, or under the eyes, with good effect. The wounds must be suffered to bleed for some hours, and if the bleeding stop soon, it may be promoted by the application of cloths dipped in warm water. In obstinate cases, it will be necessary to repeat this operation several times.

Opening and diluting medicines are by no means to be neglected. The patient may take a small dose of Glauber's salts and cream of tartar, every second or third day, or a decoction of tamarinds with senna. If these be not agreeable, gentle 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, blistering plasters must be applied to the temples, behind the ears, or upon the neck, and kept open for some time by the mild blistering ointment. 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.

When the disease has been of long standing, I have seen very extraordinary effects from a seton on 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 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 spoonfuls of the syrup of poppies, overnight, more or less according to his age, or the violence of the symptoms. In violent inflammation of one or both eyes, the application of leeches should never be omitted.

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 collyriums.*

When an inflammation of the eyes proceeds from a scrofulous 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 prepared in the following manner:—

Take an ounce of the bark in powder, with two drachms of Winter's bark, and boil them in an English quart of water to a pint : when it has boiled nearly long enough, add half an ounce of liquorice root sliced. Let the liquor be strained. Two, three, or four tablespoonfuls, according to the age of the patient, may be taken three or four times a day. It is impossible to say how long this medicine should be continued, as the cure is sooner performed in some than in others ; but, in general, it requires a considerable time to produce any lasting effects.

Dr. Cheyne says, “that Æthiop's mineral never fails in obstinate inflammations of the eyes, even scrofulous ones, if given in a sufficient dose and duly persisted in.” There is no doubt but this and other preparations of mercury may be of singular ser-

* After the active stage of the inflammation has terminated, and the blood-vessels 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 scrofulous 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 humor of the eye had become so turbid, that the patient, evidently of a scrofulous habit, could hardly distinguish light from darkness, which was almost wholly removed, and sight in a great measure restored, by persisting in a course of sea bathing during the months of summer.

vice in ophthalmias of long continuance, but they ought always to be administered with the greatest caution, or by persons of skill in physic.

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.

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.†

Although inflammation of the eyes proceeds from a great variety of causes, yet I find, that most of our pretended *eye doctors* treat them all nearly in the same way. Whether the inflammation is occasioned by a blow, a scrofulous habit, or a specific infection, still they keep scarifying the inner coats of the eyelids, and cutting, and scratching, till they totally extinguish the sight. About twelve years ago, a patient of mine, troubled with an inflammation of the eyes, which had arisen from a venereal taint, was not only weak enough to go to one of those *surgeon oculists*, but to say, that I was giving him calomel. The other immediately observed, that he never gave his patients mercury; and did not forget to throw out very broad hints of the impropriety of my treatment. I afterwards saw the patient, and perceiving his credulity wrought upon, I could only bid him *look to the end of it*. About two years after, he had occasion to go to France, when he consulted one of the most eminent medical men in Paris, who, soon discovering one of his eyes to be irrecoverably lost, took his fee, and left the following laconic remark, instead of a prescription, "Your English surgeon has put your eye out;" and, to this day, the patient wears an artificial eye.

* 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.

† 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 forms of these medicines in the Appendix. See Appendix, *Eye Water* and *Eye Salve*.

CHAP. XXIX.

OF THE QUINSY, OR INFLAMMATION OF THE THROAT.

THIS disease is very common in Britain, and is frequently attended with great danger. 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, namely, 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 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 quinsy 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 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 quinsy. 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 let, it is generally covered with a tough coat of a whitish color, and the patient spits a tough 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 unfavorable symptom : but if it suddenly falls, and the disease affects the breast, the danger is very great. When a quinsy 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 must be light, and in small quantity, and the drink plentiful, weak, and diluting, mixed with acids.

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 sweat, 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 wrapped round it. This 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 particular 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 spoonfuls 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 teaspoonful of the spirit of *sal ammoniac*. Some recommend gargles made of the decoction of the leaves or bark of the black currant bush; but where the jelly can be had, these are unnecessary.

There is no disease wherein the benefit of bathing the feet and legs in lukewarm water is more apparent: this 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 it.

The body should likewise be kept gently open. This may either be done, by giving the patient for his ordinary drink a decoction of 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 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.

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.

Blistering 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 blistering plaster quite across the throat, so as to reach from ear to 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, on 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 endeavors 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 tumor 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 tumor has broken; and afterwards they have recovered.

Not only the swallowing, but the breathing is often prevented by the tumor. In this case nothing can save the patient's life, but opening the *trachea* or windpipe.

When a difficulty of swallowing is not attended with an acute 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 spirit. But this gargle is never to be used where there are signs of an inflammation.

Those who are subject to inflammations of the throat, in order to avoid this disease, ought to live temperately. Such as do not choose to observe this rule, must have frequent recourse to purging and other evacuations, to discharge the superfluous humors. 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 drunk immediately after it, or the body suf-

ferred 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 this complaint by only wearing a ribband, 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 inconvenience 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 the elixir or spirit of vitriol.

OF THE MALIGNANT QUINSY, OR PUTRID ULCEROUS SORE THROAT.

THIS kind of quinsy 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.

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 on their guard against going near such patients as labor under the disorder; as by this 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.

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 color. 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 color. Pale or ash colored spots, however, are here and there interspersed, and sometimes one broad patch or spot, of an irregular figure, and pale white color, surrounded with florid red, only appears. These whitish spots or sloughs, cover so many ulcers.

An efflorescence, or eruption on 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.

Unfavorable symptoms are, an obstinate purging, extreme weakness, dimness of the sight, a livid or black color of the spots, and frequent shiverings, with a weak, fluttering pulse. If the eruption upon the skin suddenly disappears, or becomes of a livid color, with a discharge of blood from the nose or mouth, the danger is very great.

If a gentle sweat breaks out about the third or fourth day, and continues 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 color 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 quinsy 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, chamomile 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 gargle 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.

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 on 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 snakeroot, may be boiled in an English pint and a half of water to half a pint; to which a teaspoonful of the elixir of vitriol may be added, and an ordinary teacupful of it taken every three or four hours. Blistering plasters 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 tablespoonfuls of the saline julep, every hour. Tea made of mint and a little cinnamon will be very proper for his ordinary drink, especially if an equal quantity of red wine be mixed with it.

In case of a violent looseness, the size of a nutmeg of *dias-*

cordium, or the japonic confection, may be taken two or three times a day, or oftener, if necessary.

If a discharge of blood from the nose happens, the steams of warm vinegar may be received up the nostrils frequently; and the drink must be sharpened with spirit of vitriol, or tincture of roses.

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 elixir of vitriol, and to take frequently a glass of generous wine. These, together with a nourishing diet, and riding on horseback, are the most likely means for recovering his strength.

The quinsy, 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 quinsy, 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 quinsy, as I before observ-

ed, is that attended with a putrid fever, commonly called the malignant quinsy, or putrid ulcerous sore throat. Wherever 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.

OF THE MUMPS.

'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 further 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 favorably 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 tumors 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

* The Angina Parotidæa, commonly denominated the Mumps, is a disease that appears in certain districts of this country, often at distant intervals of time. The proper mode of treating an uncommon malady is not always present to the mind of the local practitioner. As the safety or danger of this complaint depends in great measure on the manner in which it is managed, I have thought it proper to insert an account of the most approved method of treatment in a medical work so generally diffused, and of easy access.

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 bloodletting, 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 tumors 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 tumor, 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.

A. P. B.

CHAP. XXX.

OF COLDS AND COUGHS.

IT has already been observed, that colds are the effect of an obstructed perspiration; the common causes of which we have likewise endeavored to point out, and shall not here repeat them. Neither shall we spend time in enumerating all the various symptoms 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 catch 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 a uniform degree of warmth, such a thing as catching cold would be impossible; but as this 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, panada, 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 practice a moderate degree of abstinence, when the first symptoms of a cold appear, we have reason to believe, that most of the bad effects, which flow from 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 labor 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 even to render them ever after unable to sustain hard labor. But even such of the laboring poor as can afford to take care of themselves, are often too foolhardy to do it; they affect to despise colds, and, so 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 on 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 the 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 the 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 recommended in the scarlet fever, every three or four hours, till they give a stool.

It will likewise be proper to put a blister on the back, to give two tablespoonfuls 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, remove the complaint in two or three days, when the patient had all the symptoms of an approaching ardent fever, or an inflammation of the breast.

The chief secret of preventing colds lies in avoiding, as far as possible, all extremes, either of heat or cold, and in taking care, 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.

I believe I need not assure the reader of what he will perceive in almost every page of this book, that I am far from being an enemy to agreeable and innocent recreations. But some of our amusements are attended with so much injury to the health of thousands, that it would be carrying indulgence too far to pass them over unnoticed.

Public gardens, those places of general resort in the summer season, are as dangerous as they are inviting. Their agreeable coolness at the close of a hot day, the gayety of the company, the charms of the music, and the variety of the other decorations, concur to render such scenes peculiarly delightful, and to make age, as well as youth, forget the baneful effects of evening dews, and of the night air. In the mean time, perspiration is checked, and disease is inhaled at almost every breath. The dampness is in proportion to the heat that preceded it, and is further increased by exhalations from the water, which always forms one of the ornaments or boundaries of the beautiful landscape. Ah! fly from the bewitching spot at an early hour; and think, that even the verdure you tread on, so soft to the foot, and the plants and flowers, so pleasant to the sight and smell, begin, soon after sunset, to emit a sort of volatile poison, and to contaminate the air around you. A little brandy, or brandy and water, while there, is the best preservative; but nothing can save you, if you stay long. Again, then, let me urge you to withdraw soon; and, after returning home, some warm and mild liquid, at going to bed, will tend to restore insensible perspiration, and to prevent the attacks of a cold, or of a fever.

But how am I to address myself in a strain of admonition to the frequenters of our theatres, which are often the sources of

rational pleasure, and where, even at my own advanced period of life, I can hardly refrain from going, when the favorites of the tragic or of the comic muse exert their fascinating powers? It would be writing contrary to the impulses of my own heart, were I to use any dissuasives against such exquisite gratifications. Yet I hope I may suggest some useful hints to guard against disagreeable consequences.

In the relaxing atmosphere of a theatre, heated by the number of lights, and by the breath and effluvia of so many persons as are crowded there together, cold, weak drink, however grateful to the taste, is extremely dangerous. Thirst may be allayed by sucking an orange or lemon, and other bad effects may be obviated by a little brandy or rum, though these spirits, if used too freely, would rather invite than avert the apprehended evil.

After the entertainment, the greatest danger attends the sudden transition from heat to cold. Additional covering should always be prepared to put on, at going out of a theatre; a handkerchief or muff should be applied to the nose and mouth; and the same precautions used, after getting home, as I have directed in the former case.

Still greater care is necessary in assemblies, where all the other causes of heat are increased by the exercise of dancing. The dances should end with minuets, or the slowest forms of graceful motion; and time should always be allowed to cool gradually before the breaking up of these gay meetings. On the subject of refreshments or drink, I need not add anything to what I have already suggested. A melancholy instance has lately occurred to me of the fatal consequences of the want of due caution on such occasions. About three years ago, I was fortunate enough to contribute to the recovery of a lady in the early stage of a consumption. I then gave her some very earnest advice to guard against the usual causes of such a complaint. But the uninterrupted enjoyment of good health for three years, blotted out of her memory my warnings of danger. In the beginning of last winter, she was tempted to go to the Westminster assembly. She caught cold there; and what is very significantly called a *galloping consumption*, carried her in a few weeks to the grave.

As to the votaries of silly fashion, who rush to Italian operas, and the like unnatural puppetshow performances, they scarcely appear worthy of either notice or advice. It is not likely that any argument would make much impression on people, who absurdly sacrifice health and life to the allurements of

false taste;—who affect to admire the most extravagant nonsense;—who, in the words of the elegant Armstrong,

—“With loudest peals
 “Applaud the fool that highest lifts his heels;
 “And with insipid show of rapture die
 “Of idiot notes impertinently long.”

OF A COMMON COUGH.

A COUGH is generally the effect of a cold, which has either been improperly treated, or entirely neglected. When it proves obstinate, there is always reason to fear the consequences, as this shows a weak state of the lungs, and is often the forerunner of consumption.

If the cough be violent, and the patient young and strong, with a hard, quick pulse, bleeding will be proper; but in weak and relaxed habits, bleeding rather prolongs the disease. When the patient spits freely, bleeding is unnecessary, and sometimes hurtful, as it tends to lessen this discharge.

When the cough is not attended with any degree of fever, and the spittle is viscid and tough, sharp pectoral medicines are to be administered; as gum ammoniac, squills, &c. Two tablespoonfuls of the solution of gum ammoniac may be taken three or four times a day, more or less, according to the age and constitution of the patient. Squills may be given various ways: two ounces of the vinegar, the oxymel, or the syrup, may be mixed with the same quantity of simple cinnamon water, to which may be added an ounce of common water, and an ounce of balsamic syrup. Two tablespoonfuls of this mixture may be taken three or four times a day.

A syrup made of equal parts of lemon juice, honey, and sugar candy, is likewise very proper in this kind of cough. A tablespoonful of it may be taken at pleasure.

But when the defluxion is sharp and thin, these medicines rather do hurt. In this case, gentle opiates, oils, and mucilages, are more proper. A cup of an infusion of wild poppy leaves, and marshmallow roots, or the flowers of coltsfoot, may be taken frequently; or a teaspoonful of the paregoric elixir may be put into the patient's drink twice a day. Fuller's Spanish infusion is also a very proper medicine in this case, and may be taken in the quantity of a teacupful three or four times a day.*

When a cough is occasioned by acrid humors tickling the

* See Appendix, *Spanish Infusion*.

throat and *fauces*, the patient should keep some soft pectoral lozenges almost constantly in his mouth; as the Pontefract liquorice cakes, barley sugar, the common balsamic lozenges, Spanish juice, &c. These blunt the acrimony of the humors, and, by taking off their stimulating quality, help to appease the cough.*

In obstinate coughs, proceeding from a flux of humors on the lungs, it will often be necessary, besides expectorating medicines, to have recourse to issues, setons, or some other drain. In this case I have often observed the most happy effects from a Burgundy pitch plaster applied between the shoulders. I have ordered this simple remedy in the most obstinate coughs, in a great number of cases, and in many different constitutions, without ever knowing it fail to give relief, unless where there were evident signs of an ulcer in the lungs.

About the bulk of a nutmeg of Burgundy pitch may be spread thin on 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 endured, 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, or spirit. 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.†

* In a former edition of this book I recommended, for an obstinate tickling cough, an oily emulsion, made with the paregoric elixir of the Edinburgh Dispensatory, instead of the common alkaline spirit. I have since been told by several practitioners, that they found it to be an excellent medicine in this disorder, and every way deserving of the character which I had given it. Where this elixir is not kept, its place may be supplied by adding to the common oily emulsion an adequate proportion of the *Thebaic Tincture*, or liquid laudanum.

† 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

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 a foulness and debility of the stomach, syrups, oils, mucilages, and all kinds of balsamic medicines, 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 this does not happen.

The cure of this cough depends chiefly on cleansing and strengthening the stomach; for which purpose gentle vomits 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 tablespoonfuls 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, or twentyfive drops of liquid laudanum, more or less, as circumstances require, may be 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 the 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,

made use of, and likewise from the manner of making it. I generally find it answer best when mixed with a little beeswax, and spread as cool as possible. The clear, hard, transparent pitch answers the purpose best.

* See Appendix, *Hiera Picra*.

† 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. A. P. B.

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.

OF THE CHINCOUGH.

THIS cough seldom affects adults, but proves often fatal to children. Such children as live on 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 chincough is so well known, even to nurses, that a 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 further 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 pennyroyal 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 chincough 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 chincough prevailing in one town or village, when another at a very small distance is quite free from it. But what-

ever be the cause, 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 favorable 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 vomiting julep recommended in the Appendix.†

It is very difficult to make children drink after a vomit. I have often seen them happily deceived, by infusing a scruple or half a drachm of the powder of ipecacuanha in a teapot, with half an English pint of boiling water. If this be disguised with a few drops of milk and a little sugar, they will imagine it tea, and drink it very greedily. A small teacupful of this may be given every quarter of an hour, or rather every ten minutes, till it operates. When the child begins to puke, there will be no occasion for drinking any more, as the water already on the stomach will be sufficient.

Vomits not only cleanse the stomach, which in this disease is generally loaded with viscid mucus, but they likewise promote 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, &c. Of these a teaspoonful 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

* 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.

† See Appendix, *Vomiting Julep*.

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 chincough, and accordingly exhibit them plentifully to patients of every age and constitution, without considering that everything of this nature must load the stomach, hurt the digestion, and of course aggravate the disorder.*

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 pennyroyal tea, and repeated occasionally.†

The garlic ointment is a well known remedy in North Britain for the chincough. It is made by beating in a mortar garlic with an equal quantity of hog's lard. With this the soles of the feet may be rubbed twice or thrice a day ; but the best method is to spread it on a rag, and apply it in the form of a plaster. It should be renewed every night and morning, at least, as the garlic soon loses its virtue. This is an exceedingly good medicine, both in the chincough,‡ and in most other coughs of an obstinate nature. It ought not, however, to be used when the patient is very hot or feverish, lest it should increase these symptoms.

The feet should be bathed once every two or three days 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

* 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 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.

† Some recommend the extract of hemlock as an extraordinary remedy in the chincough ; but, so far as I have been able to observe, it is no way superior to opium, which, when properly administered, will often relieve some of the most troublesome symptoms of this disorder.

‡ As this disease is evidently spasmodic, I am inclined to think that tonic medicines will in time be found the most proper for its cure.

plaster, and to keep the part open for some time with issue ointment.

When the disease is prolonged, and the patient is free from a fever, the Peruvian bark, and other bitters, 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 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.

CHAP. XXXI.

INFLAMMATION OF THE STOMACH, AND OTHER VISCERA.

ALL inflammations of the bowels 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.—An 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 this 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 on taking any kind of food or drink, especially if it be either too hot or too cold.

When the patient vomits everything he eats or drinks, is extremely restless, has a hickup, 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 bystanders, and induce them to give him wine, spirit, 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 this 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 marsh-mallow roots, sarsaparilla, or the like.

MEDICINE.—Bleeding in this disease is absolutely necessary, and is almost 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 on bleeding, and as long as that is the case, the operation is safe.

Frequent fomentations with lukewarm water, or a decoction of emollient vegetables, 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.

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, an epispastic, or blistering plaster, applied over the part affected, is one of the best remedies I know. I have often used it, and do not recollect one instance wherein it did not give relief to the patient.

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 on his stomach. For these reasons they must not be neglected, as the patient's life may depend on them.

INFLAMMATION OF THE INTESTINES.

THIS 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, cyder, &c. It may likewise be occasioned by a rupture, by scirrhus tumors 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. 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 *feces* are vomited, and the patient is exceedingly weak, with a low, fluttering pulse, a pale countenance, and a disagreeable or offensive breath, there is great reason to fear the consequences will prove fatal. Clammy sweats, black, fetid 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.

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.

Fomentations and laxative clysters 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.

If the disease does not yield to clysters and fomentations, recourse must be had to pretty strong purgatives; but as these, by irritating the bowels, often increase their contraction, and by this means frustrate their own intention, it will be necessary to join them with opiates, which, by allaying the pain and relaxing the spasmodic contractions of the intestines, greatly assist the operation of purgatives in this case.

What answers the purpose of opening the body very well, is a solution of the sulphate of magnesia. Two ounces of this may be dissolved in an English pint of warm water, or thin gruel, and a teacupful of it taken every half hour till it operates. At the same time, fifteen, twenty, or twentyfive drops of laudanum may be given in a glass of peppermint or simple cinnamon water, to appease the irritation, and prevent the vomiting, &c.

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 on 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.

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 *feces* taken out of their intestines. They should likewise beware of eating too 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.

OF THE COLIC.

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. As each of these requires a particular method of treatment, we

shall point out their most general symptoms, and 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 wind 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 spirit. The patient should likewise sit with his feet on a warm hearthstone, or apply warm bricks to them; and warm cloths may be applied to his stomach and bowels.

This is the only colic wherein ardent spirit, spiceries, or any thing of a hot nature, may be ventured on. Nor, indeed, are these 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 spirit and warm liquors, if they were taken immediately on 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 colic 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.

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 drin'ing 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 perspiration ; as weak wine whey, or water gruel with a small quantity of spirit 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 spirit proves a real medicine, and, indeed, the best that can be administered. A glass of good peppermint 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, yellow-colored 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, acidulated with the juice of lemon, or cream of tartar, must be drank 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 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. 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. What the patient vomits in this case is commonly of a greenish color. There is a great sinking of the spirits, with dejection of mind and difficulty of breathing, which are the characteristic symptoms of this disorder. Sometimes

it is accompanied with the jaundice, but this generally goes off of its own accord in a few days.

In this colic all evacuations, as bleeding, purging, vomiting, &c. do hurt. Every thing that weakens the patient, or sinks the spirits, is to be avoided. If, however, the vomiting should prove violent, lukewarm water, or small posset, may be drank to cleanse the stomach. Afterwards the patient may take fifteen, twenty, or twentyfive drops of laudanum in a glass of cinnamon water.

The patient may likewise take four or five of the fetid pills every six hours, and drink a cup of pennyroyal tea after them. If assafetida should prove disagreeable, which is sometimes the case, a teaspoonful of the tincture of castor in a cup of pennyroyal tea, or thirty or forty drops of the balsam of Peru dropped on a bit of loaf sugar, may be taken in its stead. The anti-hysterical plaster may also be used, which has often a good effect.*

The *nervous* colic prevails among miners, smelters of lead, plumbers, the manufacturers of white lead, &c. It is very common in the cyder countries of England, and is supposed to be occasioned by the leaden vessels used in preparing this liquor. It is likewise a frequent disease in the West Indies, where it is termed the dry bellyache.

No disease of the bowels is attended with more excruciating pain than this. Nor is it soon at an end. I have known it continue eight or ten days with very little intermission, the body all the while continuing bound in spite of medicine, yet at length yield, and the patient recover.† It generally, however, leaves the patient weak, and often ends in a palsy.

The general treatment of this disease is so nearly the same with that of the iliac passion, or inflammation of the bowels, that we shall not insist on it. The body is to be opened by mild purgatives given in small doses, and frequently repeated, and their operation must be assisted by soft, oily clysters, fomentations, &c. The castor oil is reckoned peculiarly proper in this disease. It may both be mixed with the clysters and given by the mouth.‡

If the patient remains weak and languid after this disease, he must take exercise on horseback, and use an infusion of the

* See Appendix, *Antihysterical Plaster*.

† As the smoke of tobacco, thrown into the bowels, will often procure a stool, when all other means have failed, an apparatus for this purpose ought to be kept by every surgeon. It may be purchased at a small expense, and will be of service in several other cases, as the recovery of drowned persons, &c.

‡ The dose is from one tablespoonful to two or three, if necessary to open the body.

Peruvian bark in wine. When the disease ends in palsy, some chalybeate mineral water may be useful.

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 spirit 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 cloths 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 hour or two. Should these not succeed, the patient ought to be immersed in warm water.

INFLAMMATION OF THE KIDNEYS.

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 spirit 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 color; 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 endeavors 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 further back, and by the difficulty of passing urine, with which it is constantly attended.

REGIMEN.—Everything of a heating or stimulating nature is to be avoided. The food must be thin and light; as panada, small broths, with mild vegetables, and the like. Emollient and thin liquors must be plentifully drank; as clear whey, or balm tea sweetened with honey, decoction 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 twentyfour hours, especially if the patient be of a full habit. Leeches may likewise be applied to the hemorrhoidal 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 chamomile flowers, to which a little saffron is added, and mixed with about a third part of new milk, it will be still more beneficial.

Emollient clysters ought frequently to be administered; and if these 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, besides 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 marshmallows. A teaspoonful of the sweet spirit of nitre, with a few drops of laudanum, may

* 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.

now and then be put into a cup of the patient's drink. 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 chiliness, 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 on mild, mucilaginous herbs and fruits, together with the broth of young animals, made with barley and common potherbs, &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 drank for a considerable time. Chalybeate waters have likewise been found beneficial in this disease. They also must be used for a considerable time, in order to produce any salutary effects.

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.

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 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.

This disease must be treated on the same principles 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 everything that is of a hot, acrid, and stimulating quality; and should live entirely on 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 hemorrhoidal veins; hard *feces* 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, something 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 this 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 a suppuration or scirrhus.

CAUSES.—Beside the common causes of inflammation, we may here reckon the following: excessive fatness, a scirrhus of the liver itself, violent shocks from strong vomits when the liver was before unsound, an adust or atrabiliarian state of the blood, anything 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, &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 color 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 hickup, 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 hypochondriacal disorders by the degree of fever with which it is always attended.

This disease, if properly treated, is seldom mortal. A constant hickuping, 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 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. All violent purgatives are to be avoided; the body, however, must be kept gently open. 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 spirit 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 this purpose is plenty of diluting liquor drank about the warmth of human blood. Indeed, the patient in this case, as well as in all other topical inflammations, ought to drink nothing that is colder than the blood.

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 weaken the patient. Loose stools often prove critical, and carry off the disease.

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 favorable 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 endeavors 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 buttermilk. If he takes anything stronger, it should be fine, mild ale, which is less heating than wines or spirit.

We shall take no notice of inflammations of the other viscera. They must in general be treated on the same principles as those already mentioned. The chief rule with respect to all of them is, to let blood, to avoid everything that is strong, or of a heating nature, to apply warm fomentations to the part affected, and to cause the patient to drink a sufficient quantity of warm, diluting liquors.

The diseases mentioned in this chapter are generally relieved by warm fomentations externally applied, and duly persisted in. These are made in a variety of ways; but the *Anodyne Fomentation*, recommended in the Appendix, to which a handful of chamomile flowers may be occasionally added, will answer as well as any.

If the fomentations do not remove or abate the pain, recourse must be had to the warm bath, in which the patient is to continue as long as his strength will permit. The want of a 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

* 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.

a common tub, may be used for the purpose on an emergency, though not so commodious.

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 spoonfuls 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. XXXII.

OF THE CHOLERA MORBUS, AND OTHER EXCESSIVE DISCHARGES FROM THE STOMACH AND BOWELS.

THE *cholera morbus* is a violent purging and vomiting, attended with gripes, sickness, and a constant desire to go to stool. It comes on suddenly, and is most common in summer and autumn. There is hardly any disease that kills more quickly than this, when proper means are not used in due time for removing it.

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 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 excessive vomiting, and purging of green, yellow, or blackishcolored 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

* I have been twice brought to the gates of death by this disease, and both times it was occasioned by eating rancid bacon.

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 hickuping, 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, buttermilk, warm water, thin water gruel, small posset, or, what is perhaps preferable to any of them, very weak chicken broth. This should not only be drank plentifully to promote the vomiting, but a clyster of it given every hour, in order to promote the purging.

After these evacuations have been continued for some time, a decoction of toasted oat bread may be drank to stop the vomiting. The bread should be toasted till it is of a brown color, and afterwards boiled in spring water. If oat bread cannot be had, wheat bread, or oatmeal well toasted, may be used in its stead. If this does not put a stop to the vomiting, two tablespoonfuls 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 water, and other generous cordials. 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. Flannels wrung out of warm spirituous fomentations should likewise be applied to the region of the stomach.

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 infu-

sion of the bark, or other bitter, in small wine, sharpened with the elixir of vitriol, may be drank 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.

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, on 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.

OF A DIARRHŒA, OR LOOSENESS.

A LOOSENESS, in many cases, is not to be considered as a disease, but rather as a salutary evacuation. It ought, there-

fore, 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, a vomit is the proper medicine. Vomits 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 vomit, the same quantity of rhubarb may be taken, and repeated two or three times, if the looseness continues. 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 evacuation, generally requires bleeding. If this 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. This, if repeated three or four times, will generally correct the acidity, and carry off the griping stools. The potio cretacea, or chalk julep, may be administered in doses of two or three spoonfuls after each evacuation; or a teaspoonful 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 pennyroyal tea every eight or ten hours, till the symptoms abate. Ease, cheerfulness, and tranquillity of mind, are here of the greatest importance.

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 spirit 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 quicklime, 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 flavored 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 food, and meats of hard digestion. They ought likewise to beware of cold, moisture, or whatever may obstruct perspiration, and should wear flannel next the skin. All violent passions, as fear, anger, &c. are likewise carefully to be guarded against.

OF 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 morbid 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 sailing, being drawn backwards 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 color, 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 chamomile 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. The elixir of vitriol 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.

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 ef-

fect. The stomach plaster of the London or Edinburgh Dispensatory may be applied to the pit of the stomach, or a plaster of *theriaca*, which will answer rather better. Aromatic medicines may likewise be taken inwardly, as cinnamon or mint tea, wine with spices boiled in it, &c. The region of the stomach may be rubbed with ether, or if this cannot be had, with strong brandy, or other spirit. 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 salt of tartar 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 on the stomach, and nothing should be taken that is hard of digestion. We do not, however, mean, that the patient should live entirely on slops. Solid food, in this case, often sits easier on the stomach than liquids.

CHAP. XXXIV.

OF THE DIABETES, AND OTHER DISORDERS OF THE KIDNEYS AND BLADDER.

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 journeys on 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, spirit 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.

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.—Everything 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 salep, with milk, are the most proper food. Of animal substances, shell fish are to be preferred; as oysters, crabs, &c.

The drink may be lime water, in which a due proportion of oak bark has been macerated. The white decoction,* with isinglass dissolved in it, is likewise a very proper drink.

The patient ought daily to take exercise, but it should be so gentle as not to fatigue him. He should lie on 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 everything 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

* See Appendix, *White Decoction*.

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 teacupful 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 teacupful 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 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 laboring 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 labors, &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.

* See Appendix, *Tincture of Roses*.

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.*

OF A 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 *feces* 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 hemorrhoidal 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 on 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, chamomile 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 on 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.

* A bottle made of the India rubber, and properly applied, answers this purpose best.

The food must be light, and taken in small quantities. The drink may be weak broth, or decoctions and infusions of mucilaginous vegetables, as marshmallow roots, limetree buds, &c. A teaspoonful of the sweet spirit of nitre, or a drachm of Castile 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 temperately. 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.*

OF THE GRAVEL AND STONE.

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 happens 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 strong 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 pain in the loins, sickness, vomiting, and sometimes bloody urine. When the stone descends into the *ureter*, and is too large to pass alone 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 a pain at the time, as well as before and after making water; 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 on motion, especially on horseback, or in a carriage on a rough

* Rubbing the abdomen and inside of the thighs with the volatile liniment, composed of equal parts of spirit of hartshorn and oil, will sometimes relieve a suppression of urine.

road ; or from a white, thick, copious, offensive mucous sediment in the urine ; from an itching in the top of the *penis* ; from bloody urine ; from an inclination to go to stool during the discharge of urine ; from the 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 catheter.

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 cellery, 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 marshmallows, parsley, liquorice, or of other mild, mucilaginous vegetables ; as linseed, limetree 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 an hereditary tendency to this disease, a sedentary life ought never to be indulged. Were people careful, on 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.

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 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 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 Alicante soap, and drink three or four English pints of 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.

The caustic alkali, or soap lees, is the medicine chiefly in vogue at present for the stone. It is of a very acrid nature, and ought therefore to be given in some gelatinous or mucilaginous liquor; as veal broth, new milk, linseed tea, a solution of gum arabic, or a decoction of marshmallow roots. The patient must begin with small doses of the lees, as thirty or forty drops, and increase it by degrees, as far as the stomach can bear it.†

Though the 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, 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 anything 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

* See Appendix, *Lime Water*.

† The caustic alkali may be prepared by mixing two parts of quicklime with one of potashes, and suffering them to stand till the lixivium be formed, which must be carefully filtrated before it be used. If the solution does not happen readily, a small quantity of water may be added to the mixture.

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.

The only other medicine which we shall mention is the *ura 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.

Of all disorders in the urinary passages, the most tormenting is the stone in the bladder. The means of dissolving it, and bringing it away, though the frequent boast of quacks, have hitherto baffled medical inquiry. The British parliament, indeed, once paid five thousand pounds for a pretended solvent for the stone, which has long been forgotten. The fact, however, stands on record as a signal proof of the extent to which credulity may be carried, on the one hand, and successful imposture, on the other.

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 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.*

* A teaspoonful 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.

CHAP. XXXIV.

OF INVOLUNTARY DISCHARGES OF BLOOD.

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 further advanced in years are more liable to hæmoptoë, or discharge of blood from the lungs. After the middle period of life, hemorrhoidal 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, a laxity of the vessels, a plethoric habit, &c. At other times they proceed from a determination of the blood towards one particular part, as the head, the hemorrhoidal 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 on the skin, the bowels, or any particular part of the system.

But a dissolved state of the blood will likewise occasion

hemorrhages. Thus, in putrid fevers, the dysentery, the scurvy, the malignant smallpox, &c., there are often very great discharges of blood from different parts of the body. They may likewise be brought on by too liberal a use of medicines, which tend to dissolve the blood, as cantharides, the volatile alkaline salts, &c. Food of an acrid or irritating quality may likewise occasion hemorrhages; as also strong purges and vomits, or anything 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 hemorrhage 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 an hemorrhage 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 on 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 hemorrhage is owing to a putrid or dissolved state of the blood, the patient ought to live chiefly on acrid fruits, with milk, and vegetables of a nourishing nature, as sago, salep, &c. His drink may be wine diluted with water, and sharpened with the juice of lemon, vinegar, or spirit 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 an obstructed perspiration, or a stricture on any part of the system, is the cause of an hemorrhage, it may be removed by drinking warm, diluting liquors, lying in bed, bathing the extremities in warm water, &c.

OF BLEEDING AT THE NOSE.

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 headache, 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 determine 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 spirit of wine, may be put up the nostrils, or, if that cannot be had, they may be dipped in brandy. Blue vitriol dissolved in water may likewise be used for this purpose, or a tent dipped in the white of an egg well beaten up, may be rolled in a powder

made of equal parts of white sugar, burnt alum, and white vitriol, and put up the nostril whence the blood issues.

Internal medicines can hardly be of use here, as they have seldom time to operate. It may not, however, be amiss to give the patient half an ounce of Glauber's salt, and the same quantity of manna, dissolved in four or five ounces of barley water. This may be taken at a draught, and repeated if it does not operate in a few hours. Ten or twelve grains of nitre may be taken in a glass of cold water and vinegar every hour, or oftener, if the stomach will bear it. If a stronger medicine be necessary, a teacupful of the tincture of roses, with twenty or thirty drops of the weak spirit of vitriol, may be taken every hour. When these things cannot be had, the patient may drink water, with a little common salt in it, or equal parts of water and vinegar.*

If the genitals be immersed for some time in cold water, it will generally stop a bleeding at the nose. I have not known this fail.

Sometimes, when the bleeding is stopped outwardly, it continues inwardly. This is very troublesome, and requires particular attention, as the patient is apt to be suffocated with the blood, especially if he falls asleep, which he is very ready to do after losing a great quantity of blood.

When the patient is in danger of suffocation from the blood getting into his throat, the passages may be stopped by drawing threads up the nostrils, and bringing them out at the mouth, then fastening pieces of sponge, or small rolls of linen cloth to their extremities, afterwards drawing them back, and tying them on the outside with a sufficient degree of tightness.

After the bleeding is stopped, the patient ought to be kept as easy and quiet as possible. He should not pick his nose, nor take away the tents or clotted blood till they fall off of their own accord, and should not lie with his head low.

Those who are affected with frequent bleeding at the nose ought to bathe their feet often in warm water, and keep them warm and dry. They ought to wear nothing tight about their necks, to keep their body as much in an erect posture as possible, and never to view any object obliquely. If they have too much blood, a vegetable diet, with now and then a cooling purge, is the safest way to lessen it.

But when the disease proceeds from a thin, dissolved state of the blood, the diet should be rich and nourishing; as strong

* From ten to twenty drops of the spirit of turpentine in a little water, given frequently, seldom fails to stop a bleeding at the nose, or from any other part.

broths and jellies, sago gruel with wine and sugar, &c. Infusion of the Peruvian bark in wine ought likewise to be taken, and persisted in for a considerable time.

OF THE BLEEDING AND BLIND PILES.

A DISCHARGE of blood from the hemorrhoidal vessels is called the *bleeding piles*. When the vessels only swell, and discharge no blood, but are exceedingly painful, the disease is called the *blind piles*.

Persons of a loose, spongy fibre, of a bulky size, who live high, and lead a sedentary, inactive life, are most subject to this disease. It is often owing to an hereditary disposition. Where this is the case, it attacks persons more early in life than when it is accidental. Men are more liable to it than women, especially those of a sanguine, plethoric, or a scorbutic habit, or of a melancholy disposition.

The piles may be occasioned by an excess of blood, by strong aloetic purges, highseasoned food, drinking great quantities of sweet wines, the neglect of bleeding, or other customary evacuations, much riding, great costiveness, or anything that occasions hard or 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 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 chaly-

beate water, orange whey, decoctions or infusions of the astringent and mucilaginous plants, as the tormentil root, bistort, the marshmallow roots, &c.

Old conserve of red roses is a 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 hemorrhages, especially when assisted by the tincture of roses; a teacupful of which may be taken about an hour after every dose of the conserve.

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 hemorrhoidal 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 flower of brimstone and cream of tartar. These may be mixed in equal quantities, and a teaspoonful taken two or three times a day, or oftener if necessary. Or an ounce of the flower of brimstone and half an ounce of purified nitre may be mixed with three or four ounces of the linitive electuary, and a teaspoonful 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 steams of warm water. He may likewise apply a linen cloth dipped in warm spirit 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 on the piles themselves, so much the better. When leeches will not fix, the piles may be opened with a lancet. 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, a liniment made of two ounces of emollient ointment and half an ounce of liquid laudanum, beat up with the yolk of an egg, 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. An ointment made of one third finely powdered galls, and two thirds hogs' lard, is very useful. When the piles are seated high, relief may frequently be obtained from injections 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 neighborhood 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 wineglass 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.

WE mean here to treat of that discharge of blood from the lungs only, which is called an *hæmoptoë*, 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 *hæmoptoë*.

CAUSES.—An *hæmoptoë* 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 this organ, as they value life. They should likewise guard against violent passions, excessive drinking, and everything 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 windpipe, and so falling down on the lungs, and hurting this 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, scirrhus concretion, or anything 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 *hæmoptoë*. 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, glasshouses, or the like. It is likewise said to happen to such, as ascend to the top of very high mountains, as the Peak of Teneriffe, &c.

Spitting of blood is not always to be considered as a primary disease. It is often only a symptom, and in some diseases not an unfavorable 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 on 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 hæmoptœ. Sometimes the blood that is spit up is thin, and of a florid red color; and at other times it is thick, and of a dark or blackish color; 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 scirrhus 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. Everything 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, panada, &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, buttermilk, and such like. Everything, 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 teaspoonful 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.

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 the spirit of vitriol; 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.

If stronger astringents be necessary, fifteen or twenty drops of the elixir of vitriol 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.*

* Dr. RUSH of Philadelphia has published some interesting facts concerning the utility of common salt, in curing hemorrhage from the lungs. As this remedy may be obtained everywhere without difficulty, its effects ought to be made generally known. The following are the doctor's own words:—

VOMITING OF BLOOD.

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 hemorrhoidal flux in men. It may be occasioned by anything 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 spirit of vitriol. When there are signs of an inflammation, bleeding may be necessary ; but the patient's weakness will sel-

“The mode of giving it, is to pour down from a tea to a tablespoonful of clean, fine salt, as soon as possible after the hemorrhage 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 tablespoonfuls 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 hemorrhages, whether they were active or passive, or whether they occurred in young or in old people.”—MEDICAL INQUIRIES, &c. Vol. I. A. P. B.

dom permit it. Opiates may be of use ; but they must be given in very small doses, as four or five drops of 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 will be necessary.*

OF BLOODY URINE.

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 color, 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 discharge, 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

* 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.

on 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, it is commonly the symptom of some malignant disease; as the smallpox, 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 soft, healing, balsamic quality, as decoctions of marshmallow roots with liquorice, solutions of gum arabic, &c. Three ounces of marshmallow 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 teacupful 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 teacupful of the tincture of roses after it; or, if stronger styptics be necessary, a drachm of Armenian bole in a cup of whey may be taken three or four times a day.

OF THE DYSENTERY, OR BLOODY FLUX.

THIS disease prevails in the spring and autumn. It is most common in marshy countries, 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 anything that obstructs the perspiration, or renders the humors 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 labor 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, a constant inclination to go to stool, and generally more or less blood in the stools. It begins, like other fevers, with chillness, loss of strength, a quick pulse, great thirst, and an inclination to vomit. The stools are at first 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 hickuping 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 unfavorable 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. Everything about the patient should be frequently

changed. The excrement 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 this 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 everything 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

* The manner of making this broth is, to take a sheep's head and feet, with the skin on 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 flavor, 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 on 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 humors. 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.

made by boiling a few handfuls of fine flour, tied in a cloth, for six or seven hours, till it becomes as hard as starch. Two or three tablespoonfuls 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, currants, 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, 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.†

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,

* 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 drudge 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 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.

are all very proper, and may be drank in turns. Chamomile 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 a vomit of ipecacuanha must be given, and wrought off with weak chamomile 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 tablespoonful of the syrup of poppies, and taken three times a day.

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 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 tablespoonful 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 *Japonic confection*, drinking after it a teacupful of the decoction of logwood.*

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.

* See Appendix, *Decoction of Logwood*.

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.

When the first symptoms of the dysentery appear, the patient ought immediately to take a vomit, to go to bed, and drink plentifully of weak, warm liquor, to promote a sweat. This, with a dose or two of rhubarb at the beginning, would often carry off the disease. In countries where dysenteries prevail, we would advise such as are liable to them to take either a vomit or a purge every spring or autumn, as a preventive.

CHAP. XXXV.

OF THE HEADACHE.

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.

Sometimes the pain is internal, sometimes external; sometimes it is an original disease, and at other times only symptomatic. When the headache 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 headache is sometimes attended with a degree of stupidity or folly.

Whatever obstructs the free circulation of the blood through the vessels of the head, may occasion a headache. In persons of a full habit, who abound with blood, the headache 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 headache; as looking long obliquely at any object, wearing anything tight about the neck, a new hat, or the like.

When a headache 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.

Sometimes the headache proceeds from the repulsion or retrocession of the gout, the erysipelas, the smallpox, measles, itch, or other eruptive diseases. What is called a *hemicrania* generally proceeds from crudities or indigestion. Inanition, or emptiness, will also occasion headaches. 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 headache, 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 headache is often symptomatic in continual and intermitting fevers, especially quartans. It is likewise a very common symptom in hysteric and hypochondriacal complaints.

When a headache attends an acute fever, with pale urine, it is an unfavorable symptom. In excessive headaches, coldness of the extremities is a bad sign.

When the disease continues long, and is very violent, it often terminates in blindness, an apoplexy, dealness, a *vertigo*, the palsy, or the 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 humors, 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 headache is owing to excess of blood, or an 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 headache 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 headache 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 anything 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 headache has been cured by wearing a piece of flannel over the forehead during the night.

When the headache arises from a vitiated state of the humors, 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 headache 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 Bates' 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 laudanum, in a cup of valerian or pennyroyal 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

* See Appendix, *Decoction of Sarsaparilla*.

† 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 twentyfour hours; but such doses ought only to be administered by a person of skill.

rubbed with a coarse cloth. Cataplasms with mustard or horseradish ought likewise to be applied to them. This course is peculiarly necessary when the pain proceeds from a gouty humor affecting the head.

When the headache is occasioned by great heat, hard labor, or violent exercise of any kind, it may be allayed by cooling medicines; as the saline draughts with nitre, and the like.

A little ether dropped into the palm of the hand, and applied to the forehead will sometimes remove a violent headache.

OF THE TOOTHACHE.

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 toothache 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 sweetmeats, 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 anything that may hurt the enamel, with which they are covered, does great mischief, as the tooth is sure to be spoiled whenever the air gets into it. Breeding women are very subject to the toothache, especially during the first three or four months of pregnancy. The toothache often proceeds from scorbutic humors affecting the gums. In this case the teeth are sometimes wasted, and fall out without any considerable degree of pain. The more immediate cause of the toothache is a rotten or *carious* tooth.

In order to relieve the toothache, we must first endeavor to lessen the flux of humors to the part affected. This may be done by mild purgatives, scarifying the gums, or applying leeches to them, and bathing the feet frequently with warm water. The perspiration ought likewise to be promoted, by drinking freely of weak wine whey, or other diluting liquors, with small doses of nitre. Vomits, too, have often an exceedingly good effect in the toothache. It is seldom safe to administer opiates, or any kind of heating medicines, or even to draw a tooth, till proper evacuations have been premised; and these alone will often effect the cure.

If this fail, and the pain and inflammation still increase, a suppuration may be expected, to promote which, a toasted fig should be held between the gum and the cheek; bags filled with boiled chamomile flowers, flowers of elder, or the like, may be applied near the part affected, with as great a degree of warmth as the patient can bear, and renewed as they grow cool: the patient may likewise receive the steams of warm water into his mouth, through an inverted funnel, or by holding his head over the mouth of a porringer filled with warm water. Gargles are likewise of use to promote a discharge. Rob of elder, dissolved in small beer, makes a very proper gargle, or an infusion of sage or mulberry leaves.

Such things as promote the discharge of saliva, or cause the patient to spit, are generally of service. For this purpose, bitter, hot, or pungent vegetables may be chewed; as gentian, calamus aromaticus, or pellitory of Spain. Allen recommends the root of *yellow water flower-de-luce* in this case. This root may either be rubbed on the tooth, or a little of it chewed. Brookes says, he hardly ever knew it fail to cure the toothache. It ought, however, to be used with caution.

Many other herbs, roots, and seeds, are recommended for curing the toothache; as the leaves or roots of millefoil or yarrow chewed, tobacco smoked or chewed, stavesacre, or the seeds of mustard chewed, &c. These bitter, hot, and pungent things, by occasioning a greater flow of *saliva*, frequently give ease in the toothache.

Opiates often relieve the toothache. For this purpose, a little cotton wet with laudanum may be held between the teeth; or a piece of sticking plaster, about the bigness of a shilling, with a bit of opium in the middle of it, of a size not to prevent the sticking of the other, may be laid on the temporal artery, where the pulsation is most sensible. *De la Motte* affirms, that there are few cases wherein this will not give relief. If there be a hollow tooth, a small pill made of equal parts of camphor and opium, or a small piece of assafetida, put into the hollow, is often beneficial. When this cannot be had, the hollow tooth may be filled with gum mastich, wax, lead, cork, or any substance that will keep in it, and keep out the external air.

Few applications give more relief in the toothache 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 frequently 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.* When a sound tooth has been drawn, if it be replaced immediately, it will grow in again; and it is now a practice to draw a rotten tooth, and put a sound one from another person in its room.†

When the toothache 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 toothache, 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 toothache 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 toothache.

Of all the aches and pains incident to the human body, I do not know of one more distressing than the toothache. It is not, indeed, dangerous; but it so much disturbs and deranges every function, as to render the greatest man incapable of thinking or acting with propriety. I know of many things that will ease the raging pain for the moment, but none that will cure it, where the tooth is carious. In this case, I would always recommend the extraction of the unsound tooth, rather than to endure the pain for years, and be obliged to submit to the operation at last. It is to be remembered, that a decayed tooth can never get better, or become sound; and that, by being left in, it only tends to vitiate the rest, and to do mischief. Great care and expertness, however, are necessary in extracting it.

* This may always be prevented by the operator's striking on the teeth with any piece of metal, as this never fails to excite the pain in the carious tooth.

† This practice has for years been totally relinquished, in consequence of the dangerous diseases that were found to result from bringing the living parts of two different animal bodies into intimate union with each other. A. P. E.

OF THE EARACHE.

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 earache may proceed from any of the causes which produce inflammation. It often proceeds from a sudden suppression of 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 morbid matter to the ear. This often happens in the decline of malignant fevers, and occasions deafness, which is generally reckoned a favorable symptom.

When the earache 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 on 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 chamomile 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 chamomile flowers.

The patient's feet should be frequently bathed in lukewarm water, and he ought to take small doses of nitre and rhubarb, a scruple of the former and ten grains of the latter, three times a day. His drink may be whey, or a 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 humors 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.

PAIN OF THE STOMACH, &c.

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.

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 hypochondriacal 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 chamomile 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 everything 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 this grain is generally supposed to be of a windy nature.*

This complaint may likewise be greatly relieved by labor, 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 sheathe 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 on 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 chamomile 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.

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

* 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.

and bowels, and consequently increase the disorder. Their 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.

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 on 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. XXXVI.

OF WORMS.

THESE are chiefly of three kinds, *viz.* the *tania*, 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, 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 intestines, and sometimes in the stomach. The round and short worms commonly lodge in the *rectum*, or lower portion of the intestines, and occasion a disagreeable itching about the seat.

The long round worms occasion squeamishness, vomiting, a disagreeable 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 perfo-

* 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.

rate 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,—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, a 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 color; 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 surprizing 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, on 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 involving of one part of the bowels within

another, had taken place in no less than four different parts of the intestinal canal.*

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, with now and then a glass of good wine.

The best purge, for an adult, is jalap and calomel. Twenty-five 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, hiera picra, tincture of senna and rhubarb, &c.

Oily medicines are sometimes found beneficial for expelling worms. An ounce of salad oil and a tablespoonful 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 flowers of sulphur in very large doses, and with great success. It should be made into an electuary with

* 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 doing much mischief. They find worms in every case, 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.

‡ Such repeated doses of calomel are liable to injure the stomach and bowels, and beside are not necessary as anthelmintics. A few injections of lamp or whale oil will destroy the *ascarides*.
C.

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 flower 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 remains 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 tablespoonful 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, chamomile flowers, tops of wormwood, the lesser centaury, &c.

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 ethiop's mineral, in a spoonful of treacle, twice a day. This dose must be increased or diminished according to the age of the patient.

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 teaspoonful 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 ethiop's 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.

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 worms, to take a dose of camphorated spirit after meals; as everything 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 favor 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 be always 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.

* We think it necessary here to warn people of their danger who buy cakes, powders, and other warm medicines, at random, from quacks, and give them to their children without proper care. The principal ingredient 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.

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. XXXVII.

OF THE JAUNDICE.

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 color. 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. 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 obstinate 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 stoppage of customary evacuations, as the *menses*, the bleeding piles, issues, &c. will occasion the jaundice.

SYMPTOMS.—The patient at first complains of excessive weariness, 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 color, and the urine, as was observed above, is yellow. The breathing is difficult, and the patient complains of an unusual load or oppression of his 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 hypochondriacal 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 spinach, &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 marshmallow 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 had 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.—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, a vomit 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 vomits, 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 chamomile tea, or lukewarm water. The body must likewise be kept open by taking a sufficient quantity of Castile soap, or the pills for the jaundice recommended in the Appendix.

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.

Vomits, purges, fomentations, and exercise, will seldom fail to cure the jaundice when it is a simple disease; and when complicated with the dropsy, a scirrhus liver, or other chronic complaints, it is hardly to be cured by any means.

Numberless British herbs are extolled for the cure of this disease. The author of the *Medicina Britannica* mentions near

a hundred, all famous for curing the jaundice. The fact is, the disease often goes off of its own accord; in which case the last medicine is always said to have performed the cure. I have sometimes, however, seen considerable benefit, in a very obstinate jaundice, from a decoction of hempseed. Four ounces of the seed may be boiled in two English quarts of ale, and sweetened with coarse sugar. The dose is half an English pint every morning. It may be continued for eight or nine days.

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.

The soluble tartar is a very proper medicine in the jaundice. A drachm of it may be taken every night and morning in a cup of tea or water gruel. If it does not open the body, the dose may be increased.

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 a method, than on the whole catalogue of near a hundred specifics mentioned by the late Dr. Short of Sheffield, though I have known instances, where one of them, the decoction of hempseed, as already intimated, was found very beneficial.

CHAP. XXXVIII.

OF THE DROPSY.

THE dropsy is a preternatural swelling of the whole body, or some part of it, occasioned by a collection of watery humor. It is distinguished by different names, according to the part affected, as the *anasarca*, or a collection of water under the skin; the *ascites*, or a collection of water in the belly; the *hydrops pectoris*, or dropsy of the breast; the *hydrocephalus*, or dropsy of the brain, &c.

CAUSES.—The dropsy is often owing to an hereditary dispo-

sition. It may likewise proceed from drinking ardent spirit, 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 hemorrhoids, fluxes of the belly, &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, a diarrhœa, a dysentery, an 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.—The *anasarca* generally begins with a swelling of the feet and ankles 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 the 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 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 on 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.

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 labor, 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 to a 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 by day, taking it off by night.

MEDICINE.—If the patient be young, his constitution good, and the disease has come on suddenly; it may generally be removed by strong vomits, brisk purges, and such medicines as promote a discharge by sweat 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. The patient must not drink much after taking the vomit, otherwise he destroys its effect. A cup or two of chamomile 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 teaspoonful of the spirit of hartshorn in it. A teacupful of the following diuretic infusion may likewise be taken every four or five hours through the day: Take juniper berries, mustard seed, and horseradish, 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 on. 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 to 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-spoonfuls of Mindererus's spirit in a cup of wine whey three or four times a day. To promote a discharge of urine, the fol-

lowing 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; salt of wormwood, 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 wineglass of it may be taken three or four times a day.

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 would often succeed, if it were performed in due time; but if it be delayed till the humors 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, by day, 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 scirrhus liver, or a worn out constitution, very little is to be expected from medicine.

* 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.
A. P. B.

† The very name of an operation is dreadful to most people, and they wish to try everything 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 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.*

CHAP. XXXIX.

OF THE GOUT.

THERE is no disease, which shows the imperfection of medicine, or sets the advantages of temperance and exercise in a stronger light, than the gout. Excess and idleness are the true sources whence it originally sprung, and all who would avoid it must be *active* and *temperate*.

Though idleness and intemperance are the principal causes of the gout, yet many other things may contribute to bring on the disorder in those who are not, and to induce a paroxysm in those who are, subject to it; as intense study; excess of venery; too free a use of acidulated liquors; night watching; grief or uneasiness of mind; an obstruction or defect of any of the customary discharges, as the *menses*, sweating of the feet, perspiration, &c.

SYMPTOMS.—A fit of the gout is generally preceded by indigestion, drowsiness, belching of wind, a slight headache, sickness, and sometimes vomiting. The patient complains of weariness and dejection of spirits, and has often a pain in the limbs, with a sensation as if wind or cold water were passing down the thigh. The appetite is often remarkably keen a day or two before the fit, and there is a slight pain in passing urine, and

* 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.

frequently an involuntary shedding of tears. Sometimes these symptoms are much more violent, especially upon the near approach of the fit; and it has been observed, that as is the fever which ushers in the gout, so will the fit be; if the fever be short and sharp, the fit will be so likewise; if it be feeble, long, and lingering, the fit will be such also. But this observation can only hold with respect to very regular fits of the gout.

The regular gout generally makes its attack in the spring or beginning of winter, in the following manner: about two or three in the morning, the patient is seized with a pain in his great toe, sometimes in the heel, and at other times in the ankle or calf of the leg. This pain is accompanied with a sensation as if cold water were poured on the part, which is succeeded by a shivering, with some degree of fever. Afterwards the pain increases, and fixing among the small bones of the foot, the patient feels all the different kinds of torture, as if the part were stretched, burnt, squeezed, knawed, or torn in pieces. The part at length becomes so exquisitely sensible, that the patient cannot bear to have it touched, or even suffer any person to walk across the room.

The patient is generally in exquisite torture for twentyfour hours, from the time of the coming on of the fit: he then becomes easier, the part begins to swell, appears red, and is covered with a little moisture. Towards morning he drops asleep, and generally falls into a gentle breathing sweat. This terminates the first paroxysm, a number of which constitutes a fit of the gout; which is longer or shorter according to the patient's age, strength, the season of the year, and the disposition of the body to this disease.

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 ac-

customed 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 teaspoonful of *sal volatile oleosum*, or spirit of hartshorn, be put into a cup of it twice a day. It will likewise be proper to give at bed time a teaspoonful of the volatile tincture of *guaiacum*, in a large draught of warm wine whey. This will greatly promote perspiration through the night.

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 wrapped in soft flannel, fur, or wool. The last is most readily obtained, and seems to answer the purpose better than anything else. The people of Lancashire look on 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. Everything that affects the mind disturbs the paroxysm, and tends to throw the gout on the nobler parts. All external applications that repel the matter are to be avoided as death. They 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.

Many things will indeed shorten a fit of the gout, and some

will drive it off altogether; but nothing has yet been found which will do this with safety to the patient. In pain we eagerly grasp at anything 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. Notwithstanding the acknowledged and frequently experienced danger of tampering with the gout, such is the effect of intense pain, that I never met with more than two patients who could bear their sufferings with rational composure, or, what is the same thing, without frantic attempts to alleviate them. When the seat of the complaint is in torture, a promise to afford relief, though made by the greatest impostor on earth, is listened to; and present ease is sought for, at the risk of any future consequences. It is not many years since some persons of the first rank in the kingdom fell victims to the deceptions of a foreign quack, who soothed their impatience of pain, amused them with the charm of fancied recovery, and rendered momentary ease the fatal prelude to inevitable death. It would be as prudent to stop the smallpox from rising, and to drive them into the blood, as to attempt to repel the gouty matter after it has been thrown on the extremities. The latter is as much an effort of nature to free herself from an offending cause as the former, and ought equally to be promoted.

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 snakeroot, 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 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 labor, sweat and toil. These only can render the humors 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 and rhubarb to be taken every spring and autumn; and afterwards a course of stomachic bitters; as tansy or water trefoil tea, an infusion of gentian and chamomile 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 recall and fix it, become absolutely necessary. When the gout affects the head, the pain of the joints ceases, and the swelling disappears,

* Some make a secret of curing the gout by *muscular exercise*. This secret, however, is as old as Celsus, who strongly recommends this mode of cure; and whoever will submit to it in the fullest extent, may expect to reap solid and permanent advantages.

while either severe headache, 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 ankles or calves of the legs. Bleeding in the feet or ankles is also necessary, and warm 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 endeavor to promote a sweat by drinking warm liquors; and if he should be troubled with a nausea, or inclination to vomit, he may drink chamomile tea, or anything that will make him vomit freely.

When the gout attacks the kidneys, and imitates gravel pains, the patient ought to drink freely of a decoction of marshmallows or pyrola, 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 headaches, coughs, pains of the stomach and intestines; and to fall, at last, a victim to its attack on some of the more noble parts.

* Ether is found to be an efficacious remedy in this case.

OF THE 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; as 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 extraordinary case of a rheumatism that I ever saw, where almost every joint of the body was distorted, was that of 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 humors; 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.

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, large doses of pounded guaiacum, 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 *spiritus Mindereri*, &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 does not catch cold after bathing.

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 teaspoonful 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 blister 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

* See Appendix, *Warm Plaster*.

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 parts affected with tincture of cantharides. When the common tincture did not succeed, he used it of a double or treble strength. Cupping on the part affected is likewise often very beneficial, and so is the application of leeches.

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.

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 tablespoonful 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, chamomile, 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.

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 wineglasses 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.

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 this 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 neighbors 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.

CHAP. XL.

OF THE SCURVY.

THIS disease prevails chiefly in cold, northern countries, especially in low, damp situations, near large marshes, or great quantities of stagnant 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 smoked 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 hemorrhoidal 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 humors.

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 colored spots; the face is generally of a pale or leaden color. As the disease advances, other symptoms come on; as rottenness of the teeth, hemorrhages, 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 humors, 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 humor. 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 cyder, will seldom fail to remove a scurvy of this kind, if taken before it be 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 chemical 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 seafaring 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 chemical 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, cyder, &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 this 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.

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.†

* By new bread here, the author doubtless means bread duly ripened, two or three days old, before which bread is never fit to be eaten by any one, sick or well. C.

† Everybody 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 smoked dried meats are a favorite and a 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 in a great measure 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

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 humors, 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 cyder, 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, marshmallow 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.

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.

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 on their skins. It is reasonable to suppose, that their effects would be as great on 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 of 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 on 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 leprosy 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 adviseable 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.

OF THE 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, 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 humors, as the smallpox, measles, &c. External injuries, as blows, bruises, and the like, 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 humors, 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 tumor. This often continues for a long time without breaking, and when it does break, it only discharges a thin *sanies*, or watery humor. Other parts of the

* 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 this 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.

† The scrofula, as well as the rickets, is found to prevail in large manufacturing towns, where people live grossly, and lead sedentary lives.

body are likewise liable to its attack, as the armpits, groins, feet, hands, eyes, breasts, &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 mesentery greatly enlarged by it.

Those obstinate ulcers, which break out on 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.

MEDICINE.—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. Hence it is, that, in diseases which are the most difficult to understand, we generally hear of the greatest number of miraculous cures being performed. Here, however, the deception is easily accounted for. 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 humors 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. 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 coarsely powdered, in an English quart of water to a pint : 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 tablespoonfuls, 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.

The 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 *tubes* ; the Peruvian bark, when there are running sores, and a degree of hectic fever ; and the hemlock in old, inveterate cases, approaching to the scirrhus 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 tumor 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.*

Medicines which mitigate this disease, though they do not cure 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.

For the means of preventing the scrofula, we must refer the reader to the observations on nursing, at the beginning of the book.

I am now induced to bring into one point of view such of those remarks as immediately relate to the subject of prevention, in order to impress them more strongly on the minds of those who have the care of children.

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 humors 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 newborn 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

* The application of the lunar caustic tends very much to promote the cure of scrofulous ulcers, after they have broken, for they should never be opened. They will bear a pretty free daily application of this stimulus, not only with impunity, but advantage.

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 favor 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 vapor 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 symptom 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 predisposition 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 sys-

tem, which they now stand in need of. A gross, full diet will certainly occasion humors 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 these 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.*

OF THE ITCH.

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 humors; and, if it be suddenly driven in, without proper evacuations, it may occasion fevers, inflammations of the viscera, or other internal disorders.

The best medicine yet known for the itch is sulphur, which

* 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.

ought to be used, both externally and internally. The parts most affected may be rubbed with an ointment made of the flower of sulphur, two ounces; crude sal ammoniac, finely powdered, two drachms; hog's lard, or butter, four ounces. If a scruple or half a drachm of the essence of lemon be added, it will entirely take away the disagreeable smell. About the bulk of a nutmeg of this may be rubbed on the extremities at bed time, twice or thrice a week. It is seldom necessary to rub the whole body; but when it is, it ought not to be done all at once, but by turns, as it is dangerous to stop too many pores at the same time.

Before the patient begins to use the ointment, he ought, if he be of a full habit, to bleed or take a purge or two. It will likewise be proper, during the use of it, to take, every night and morning, as much of the flower of brimstone and cream of tartar, in a little treacle or new milk, as will keep the body gently open. He should beware of catching cold, should wear more clothes than usual, and take everything warm. The same clothes, the linen excepted, ought to be worn all the time of using the ointment; and such clothes as have been worn while the patient was under the disease are not to be used again, unless they have been fumigated with brimstone, and thoroughly cleansed; otherwise they will communicate the infection anew.*

I never knew brimstone, when used as directed above, fail to cure the itch; and I have reason to believe, that, if duly persisted in, it never will fail; but, if it be only used once or twice, and cleanliness neglected, it is no wonder if the disorder returns. The quantity of ointment mentioned above will generally be sufficient for the cure of one person; but, if any symptoms of the disease should appear again, the medicine must be repeated. It is both more safe and efficacious when persisted in for a considerable time, than when a large quantity is applied at once. As most people dislike the smell of sulphur, they may use in its place the powder of white hellebore root made up into an ointment, in the same manner, which will seldom fail to cure the itch.

People ought to be extremely cautious lest they take other eruptions for the itch; as the stoppage of these may be attend-

* Sir John Pringle observes, that, though this disease may seem trifling, there is no one in the army that is more troublesome to cure, as the infection often lurks in clothes, &c. and breaks out a second, or even a third time. The same inconveniency occurs in private families, unless particular regard be paid to the changing or cleaning of their clothes, which last is by no means an easy operation.

ed with fatal consequences. Many of the eruptive disorders to which children are liable, have a near resemblance; and I have often known infants killed by being rubbed with greasy ointments, that make these eruptions strike suddenly in, which nature had thrown out to preserve the patient's life, or prevent some other malady.

Much mischief is likewise done by the use of mercury in this disease. Some persons are so foolhardy as to wash the parts affected with a strong solution of the corrosive sublimate. Others use the mercurial ointment, without taking the least care either to avoid cold, keep the body open, or observe a proper regimen. The consequences of such conduct may be easily guessed. I have known even the mercurial girdles produce bad effects, and would advise every person, as he values his health, to beware how he uses them. Mercury ought never to be used as a medicine without the greatest care. Ignorant people look upon these girdles as a kind of charm, without considering, that the mercury enters the body.

It is not to be told what mischief is done by using mercurial ointment for curing the itch and killing vermin; yet it is unnecessary for either: the former may be always more certainly cured by sulphur, and the latter will never be found where due regard is paid to cleanliness.

Those who would avoid this detestable disease, ought to beware of infected persons, to use wholesome food, and to study universal cleanliness.*

CHAP. XLI.

OF THE ASTHMA.

THE asthma is a disease of the lungs, which seldom admits of a cure. Persons in the decline of life are most liable to it. It is distinguished into the moist and dry, or humoral and nervous. The former is attended with expectoration or spitting;

* The itch is now by cleanliness banished from every genteel family in Britain. It still, however, prevails among the poorer sorts of peasants in Scotland, and among the manufacturers in England. These are not only sufficient to keep the seeds of the disease alive, but to spread the infection among others. It were to be wished, that some effectual method could be devised for extirpating it altogether. Several country clergymen have told me, that by getting such as were infected cured, and strongly recommending an attention to cleanliness, they have banished the itch entirely out of their parishes. Why might not others do the same?

but in the latter the patient seldom spits, unless sometimes a little tough phlegm, by the mere force of coughing.

CAUSES.—The asthma is sometimes hereditary. It may likewise proceed from a bad formation of the breast; the fumes of metals or minerals taken into the lungs; violent exercise, especially running; the obstruction of customary evacuations, as the *menses*, hemorrhoids, &c. the sudden retrocession of the gout, or striking in of eruptions, as the smallpox, measles, &c. violent passions of the mind, as sudden fear or surprise. In a word, the disease may proceed from any cause that either impedes the circulation of the blood through the lungs, or prevents their being duly expanded by the air.

SYMPTOMS.—An asthma is known by a quick, laborious breathing, which is generally performed with a kind of wheezing noise. Sometimes the difficulty of breathing is so great, that the patient is obliged to keep in an erect posture; otherwise he is in danger of being suffocated. A fit or paroxysm of the asthma generally happens after a person has been exposed to cold easterly winds, or has been abroad in thick, foggy weather, or has got wet, or continued long in a damp place under ground, or has taken some food which the stomach could not digest, as pastries, toasted cheese, or the like.

The paroxysm is commonly ushered in with listlessness, want of sleep, hoarseness, a cough, belching of wind, a sense of heaviness about the breast, and difficulty of breathing. To these succeed heat, fever, pain of the head, sickness and nausea, great oppression of the breast, palpitation of the heart, a weak, and sometimes intermitting pulse, an involuntary flow of tears, bilious vomitings, &c. All the symptoms grow worse towards night; the patient is easier when up than in bed, and is very desirous of cool air.

REGIMEN.—The food ought to be light and of easy digestion. Boiled meats are to be preferred to roasted, and the flesh of young animals to that of old. All windy food, and whatever is apt to swell in the stomach, is to be avoided. Light puddings, white broths, and ripe fruits, baked, boiled, or roasted, are proper. Strong liquors of all kinds, especially malt liquor, are hurtful. The patient should eat a very light supper, or rather none at all, and should never suffer himself to be long costive. His clothing should be warm, especially in the winter season. As all disorders of the breast are much relieved by keeping the feet warm, and promoting the perspiration, a flannel shirt or waistcoat, worn by day only, and thick shoes, will be of singular service.

But nothing is of so great importance in the asthma as pure

and moderately warm air. Asthmatic people can seldom bear either the close, heavy air of a large town, or the sharp, keen atmosphere of a bleak, hilly country: a medium, therefore, between these is to be chosen. The air near a large town is often better than at a distance, provided the patient be removed so far as not to be affected by the smoke. Some asthmatic patients, indeed, breathe easier in town than in the country; but this is seldom the case, especially in towns where much coal is burnt. Asthmatic persons, who are obliged to be in town all day, ought at least to sleep out of it. Even this will often prove of great service. Those who can afford it ought to travel into a warmer climate. Many asthmatic persons, who cannot live in Britain, enjoy very good health in the south of France, Portugal, Spain, or Italy.

Exercise is likewise of very great importance in the asthma, as it promotes the digestion, and greatly assists in the preparation of the blood. The blood of asthmatic persons is seldom duly prepared, owing to the proper action of the lungs being impeded. For this reason such people ought daily to take as much exercise, either on foot, horseback, or in a carriage, as they can bear.

MEDICINE.—Almost all that can be done by medicine in this disease, is to relieve the patient when seized with a violent fit. In the paroxysm or fit, the body is generally bound. A purging clyster, with a solution of assafetida, ought therefore to be administered; and, if there be occasion, it may be repeated two or three times. The patient's feet and legs ought to be immersed in warm water, and afterwards rubbed with a warm hand, or dry cloth. Bleeding, unless extreme weakness or old age should forbid it, is highly proper. If there be a violent spasm about the breast or stomach, warm fomentations, or bladders filled with warm milk and water, may be applied to the part affected, and warm cataplasms to the soles of the feet. The patient must drink freely of diluting liquors, and may take a teaspoonful of the tincture of castor and saffron, mixed together in a cup of valerian tea, twice or thrice a day. Sometimes a vomit has a very good effect. This, however, will be more safe after other evacuations have been premised. A very strong infusion of roasted coffee is said to give ease in an asthmatic paroxysm.

In the moist asthma, such things as promote expectoration or spitting, ought to be used; as the syrup of squills, gum ammoniac, and such like. A common spoonful of the syrup or oxymel of squills, mixed with an equal quantity of cinnamon water, may be taken three or four times through the day, and

four or five pills, made of equal parts of assafetida and gum ammoniac, at bed time.*

For the convulsive or nervous asthma, antispasmodics and bracers are the most proper medicines. The patient may take a teaspoonful of the paregoric elixir twice a day. The Peruvian bark is sometimes found to be of use in this case. It may be taken in substance, or infused in wine. In short, everything that braces the nerves, or takes off spasm, may be of use in a nervous asthma. It is often relieved by the use of asses' milk: I have likewise known cows' milk, drank warm in the morning, have a very good effect in this case.

In every species of asthma, setons and issues have a good effect; they may either be set in the back or side, and should never be allowed to dry up. We shall here, once for all, observe, that not only in the asthma, but in most chronic diseases, issues are extremely proper. They are both a safe and efficacious remedy; and though they do not always cure the disease, yet they will often prolong the patient's life.

This disease, though so common with us, is little known in mild climates; and, on this account, it is always adviseable to try the effect of a change of climate, which has generally been attended with great benefit. I have already intimated what little confidence I had in the power of any medicine to perform a radical cure of the asthma; but there are many things that will give the patient ease, and, of course, tend to prolong his life. Much also may be done by regimen, when drugs are of little service; and I would therefore advise asthmatic patients to procure and keep by them rules for their management both in and out of the fit, adapted to their particular cases. By a proper attention to such rules, a man may live many years, and enjoy tolerably good health.

I had a patient some time ago, who was often carried home to his wife in an apparently dying state. She felt little alarm, well knowing what was necessary to be done; and she always brought him about. This good woman did no more than may be done by any woman of common sense, if the doctor will deign to instruct her. General rules will not do. They must, as before observed, be suited to the patient's case and constitution. For want of some such instructions, which a physician

* After copious evacuations, large doses of ether have been found very efficacious in removing a fit of the asthma. I have likewise known the following mixture produce very happy effects: To four or five ounces of the solution or milk of gum ammoniac, add two ounces of simple cinnamon water, the same quantity of balsamic syrup, and half an ounce of paregoric elixir. Of this two tablespoonfuls may be taken every three hours.

should take the earliest opportunity to give, a patient may suffer severely, before the doctor can be sent for, or any other medical advice or assistance procured.*

CHAP. XLII.

OF THE APOPLEXY.

THE apoplexy is a sudden loss of sense and motion, during which the patient is, to all appearance, dead; the heart and lungs, however, still continue to move. Though this disease proves often fatal, yet it may sometimes be removed by proper care. It chiefly attacks sedentary persons of a gross habit, who use a rich and plentiful diet, and indulge in strong liquors. People in the decline of life are most subject to the apoplexy. It prevails most in winter, especially in rainy seasons, and very low states of the barometer.

CAUSES.—The immediate cause of an apoplexy is a compression of the brain, occasioned by an excess of blood, or a collection of watery humors. The former is called a *sanguine*, and the latter a *serous* apoplexy. It may be occasioned by anything 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 ob-

* Asthma is a disease more immediately alarming in appearance, than dangerous in reality. It is well to be aware, that there is hardly an instance known of a person dying during the asthmatic paroxysm. The duration of life seems even rarely to be shortened by this complaint. The celebrated Dr. Floyer, who wrote on asthma, though he labored under this disease during his whole life, died upwards of eighty years of age. He was of opinion, that he shortened and lightened his fits by drinking some cups of very strong coffee without milk or sugar. I have known more than one asthmatic, who never lay down in bed for a long series of years, and, notwithstanding, during the intervals of the fits, enjoyed tolerable health. Much depends on adhering to a dry diet, taking regular exercise, and on abstaining from those things which are known, by individual experience, to disorder the stomach. Considerable benefit is derived, in the nervous asthma, from occasionally taking as much genuine assafetida, made into pills, as is sufficient to keep the body regular. Smoking the herb stramonium shortens the duration of a fit, but does not permanently cure the disease, nor even diminish the number of paroxysms.

A. P. B.

† 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.

liquely; wearing anything 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 spices, or highseasoned 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 endeavor 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 able to swallow, he ought to drink freely of some diluting, opening liquor; as a decoction of tamarinds and liquorice, cream of 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, or the like.

All kinds of spirit 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 anything 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 sweat, kept up for a considerable time, has often carried off a serous apoplexy.

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 an 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 highseasoned 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 wear anything tight about their necks.

These last cautions are of far greater importance than such persons may be aware of. The circulation, which is slower during sleep than when awake, is further clogged by a fulness of the stomach. The low posture of the head not only favors, 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.*

CHAP. XLIII.

OF 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 colic, 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, tumors, 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 hypochondriacal 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 on 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 that which is made of fine flour. The best

* Persons inclined to apoplexy derive great benefit from cupping. This operation should never be omitted once or twice a year. A. P. B.

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 everything that promotes the perspiration; as wearing flannel, lying too long in bed, &c. Intense thought and a 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 spirit, 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 likewise 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 this purpose is attended with many inconveniences, 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 near so 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.

* 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, atrabiliarian constitutions, who are subject to a striction 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 buttermilk, have this effect; that new milk, especially asses' milk, stimulates still more when it sours on the stomach; and that whey turned sour will purge strongly.

WANT OF APPETITE.

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 anything 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 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.

Elixir of vitriol 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 teaspoonfuls 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 these 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.

 OF THE HEARTBURN.

WHAT is commonly called the *heartburn* is not a disease of this 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 heartburn, 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 heartburn 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 other of the stomachic bitters, in wine or brandy. Drinking a cup of chamomile 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 humors occasion the heartburn, a teaspoonful of the sweet spirit 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 with water.

If acidity or sourness of the stomach occasions the heartburn, 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 teacupful of it taken as often as is necessary. Such as do not choose chalk, may take a teaspoonful of prepared oyster shells, or of the powder called crab's eyes, in a glass of cinnamon or peppermint water. But the safest and best absorbent is magnesia. 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 teaspoonful 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 conveniency 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 tablespoonful of it may be taken occasionally for a dose.

I have frequently known the heartburn cured, particularly in pregnant women, by chewing green tea. Two tablespoonfuls of what is called the milk of gum ammoniac, taken once or twice a day, will sometimes cure the heartburn.

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.

CHAP. XLIV.

OF NERVOUS DISEASES.

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 dif-

* The heartburn, 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.

ferent persons, or even the same person at different times. Proteus-like, they are continually changing shape: and on 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, melancholy, 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.—Everything 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 unfavorable 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 on 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 humors 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 favorite 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-colored 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; 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; flying pains in the arms and limbs, pains in the back and belly, resembling those occasioned by gravel; the pulse very variable, sometimes uncommonly slow, and at other times very quick; yawning, the hickup, 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 headaches, 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 labor 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 labor 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. Everything 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 benefited 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 and 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 on 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 circulation, perspiration, &c. Persons who have weak nerves ought to rise early, and take exercise before breakfast, as lying too long in 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 anything 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 tablespoonful 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 therefore to be used with very great caution. The most proper seasons for it are summer and autumn. It will be sufficient, especially for persons of a spare habit, to go into the cold bath three or four times a week. If the patient be weakened by it, or feels chilly for a long time after coming out, it is improper.

In patients afflicted with wind, I have always observed the greatest benefit from the elixir of vitriol. It may be taken in the quantity of fifteen, twenty, or thirty drops, twice or thrice a day, in a glass of water. This both expels wind, strengthens the stomach, and promotes digestion.

Opiates are generally extolled in these maladies; but, as they only palliate the symptoms, and generally afterwards increase the disease, we would advise people to be extremely sparing in the use of them, lest habit should render them at last absolutely necessary.*

It would be an easy matter to enumerate many medicines, which have been extolled for relieving nervous disorders; but whoever wishes for a thorough cure must expect it from regi-

* Few days have passed for a considerable time, that I have not had occasion to recommend the following tincture to some of my nervous patients, and I have seldom been disappointed with regard to its effects:—Take of compound tincture of the bark and volatile tincture of valerian, each, an ounce; mix them; take a teaspoonful in a glass of wine or water three or four times a day.

men alone. We shall therefore omit mentioning more medicines, and again recommend the strictest attention to DIET, AIR, EXERCISE, and AMUSEMENTS.

OF MELANCHOLY.

MELANCHOLY is that state of alienation or weakness of mind, which renders people incapable of enjoying the pleasures, or performing the duties, of life. It is a degree of insanity, and often terminates in absolute madness.

CAUSES.—It may proceed from an hereditary disposition; intense thinking, especially where the mind is long occupied about one object; violent passions or affections of the mind, as love, fear, joy, grief, pride, and such like. It may also be occasioned by excessive venery; narcotic or stupefactive poisons; a sedentary life; solitude; the suppression of customary evacuations; acute fevers; or other diseases. Violent anger will change melancholy into madness; and excessive cold, especially of the lower extremities, will force the blood into the brain, and produce all the symptoms of madness. It may likewise proceed from the use of aliment that is hard of digestion, or which cannot be easily assimilated; from a callous state of the integuments of the brain, or a dryness of the brain itself. To all which we may add gloomy and mistaken notions of religion.

SYMPTOMS.—When persons begin to be melancholy, they are dull; dejected; timorous; watchful; fond of solitude; fretful; fickle; captious and inquisitive; solicitous about trifles; sometimes niggardly, and at other times prodigal. The body is generally bound; the urine thin, and in small quantity; the stomach and 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 smokedried fish or flesh, ought to be avoided. All kinds of shellfish are bad. Aliments prepared with onions, garlic, or anything 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 blackcolored 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, pennyroyal, 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 the viscid humors, removes obstructions, promotes the perspiration, and all the other secretions. Every kind of madness is attended with diminished perspiration; all means ought, therefore, to be used to promote this 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 a still better effect, if he were obliged to labor 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 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 a 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 has much febrile, or mental excitement, 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 evacuation 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 on the stomach in this form, it may be made into pills with gum assafetida 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 or cold 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 them open by putting into them one or more peas, or pepper corns, or a piece of orris root. 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 cordial 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.

OF THE PALSY.

THE 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.

CAUSES.—The immediate cause of palsy is anything that prevents the regular exertion of the nervous power on 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 on 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.

In young persons of a full habit, palsy must be treated in the same manner as the sanguine apoplexy. The patient must be bled, blistered, and have his body opened by active clysters

* 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 twentyfour hours. That tea affects the nerves, is likewise evident from its preventing sleep, occasioning giddiness, dimness of the sight, sickness, &c.

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, horseradish, &c. The drink may be generous 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, or the nerve ointment of the Edinburgh Dispensatory. One of the best external applications is electricity. The shocks, or rather vibrations, should be received on the part affected; and they ought daily to be repeated for several weeks.

Vomits are very beneficial in this kind of palsy, and ought frequently to be administered. Cephalic snuff, or anything 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 spirit 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 spirit 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 tablespoonful of mustard seed, taken frequently, is a very good medicine. The patient ought likewise to chew cinnamon, ginger, or other warm spiceries.

Exercise is of the utmost importance in the palsy; but the patient must beware of cold, damp, and moist air. He ought to wear flannel next his skin; and, if possible, should remove into a warmer climate.

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 unfavorable symptom when the patient is seized with the fits in his sleep.

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 fluid, in the brain; a polypus; tumors 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 smallpox, measles, &c.

SYMPTOMS.—An epileptic fit is generally preceded by unusual weariness; pain of the head; dulness; 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 feces involuntarily; 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.

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 on natural causes as any other malady; and its cure may often be affected 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 on 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 habitual 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 gums should be properly divided, 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 smallpox, 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; or the *anti-epileptic* electuaries, recommended by Fuller and Mead.*

The flowers of zinc have of late been highly extolled for the cure of 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.

Musk has sometimes been found to succeed in the epilepsy. Ten or twelve grains of it, with the same quantity of factitious

* See Appendix, *Electuary for the Epilepsy*.

cinnabar, may be made up into a bolus, and taken every night and morning.

Convulsion fits proceed from the same causes, and must be treated in the same manner, as the epilepsy.

OF ST. VITUS'S DANCE.

THE disease termed Chorea, or St. Vitus's Dance, generally attacks young people from the eighth year of their age till the 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 the 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 continues long, it materially injures the constitution, sleep becomes disturbed, or is in a 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 seem to have influenced the routine of practice hitherto 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 that it must have, on some occasions, proved fatal."

The remedies, which this 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 feces 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 vigor is best effected by the use of a light and nutritious diet, with a 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.

OF THE HICKUP.

THE hickup 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 scirrhus tumors of the stomach, intestines, bladder, midriff, or the rest of the *viscera*. In gangrenes, acute and malignant fevers, a hickup is often the forerunner of death.

When the hickup 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 milk and oil 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 spirit 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 hickup 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 humor, 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 hickup 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 spirit 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. On opening the body, a large scirrhus tumor 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 the oil of vitriol 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, hysterical and hypochondriacal.

If the patient has any inclination to vomit, he ought to take some draughts of warm water, or weak chamomile 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 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 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

* 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 anything that will cause sneezing.

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 an antihysterical plaster worn on 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 a suppression of the *menses*, bleeding is of use. If they be owing to the gout, recourse must be had to some spirit, or some of the warm cordial waters. Blistering plasters ought likewise in this case to be applied to the ankles. 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.

OF THE NIGHTMARE.

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 nightmare. 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 anything that oppresses the mind, ought also to be avoided.

The nightmare 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 nightmare 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.* This, however, is a bad custom, and in time loses its effect. We would rather have the patient depend on 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.

Persons who are young, and full of blood, if troubled with the nightmare, ought to take a purge frequently, and use a spare diet.

OF SWOONINGS.

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 transition 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, on coming into the house, especially if they drink hot liquor, or sit near a large fire. This might easily be prevented by people's 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 anything hot, till the body has been gradually brought into a warm temperature.

When any one, in consequence of neglecting these precau-

* Brandy, or any other spirit, with hot water, is much better, as a stimulant, than the spirit alone. C.

tions, 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 spirit 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 assafetida should be applied to the nose.

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, wines, 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 on 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 spirit 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, he may drink freely of warm lemonade, or balm tea, with some orange or lemon peel in it. It will likewise be proper, if the fainting fits have been long and severe, to cleanse the bowels by throwing in an emollient clyster.

It is common in fainting fits, from whatever cause they proceed, to bleed the patient. This practice may be very proper in strong persons, of a full habit; but, in those who are weak and delicate, or subject to nervous disorders, it is dangerous. The proper method with such people is, to expose them to the free air, and to use cordial and stimulating medicines, as volatile salts, Hungary water, spirit of lavender, tincture of castor, and the like; keeping them in a horizontal position.

OF FLATULENCIES, OR WIND.

ALL nervous patients, without exception, are afflicted with wind and flatulencies in the stomach and bowels, which arise chiefly from the want of tone or vigor in these organs. Crude, flatulent aliment, as green peas, beans, coleworts, cabbages, and such like, may increase this complaint; but strong and healthy people are seldom troubled with wind, unless they either overload their stomachs, or drink liquors that are in a fermenting state, and consequently full of elastic air. While, therefore, the matter of flatulence proceeds from our aliments, the cause which makes air separate from them in such quantity as to occasion complaints, is almost always a fault of the bowels themselves, which are too weak either to prevent the production of elastic air, or to expel it after it is produced.

To relieve this complaint, such medicines ought to be used as have a tendency to expel wind, and, by strengthening the alimentary canal, to prevent its being produced.*

The list of medicines for expelling wind is very numerous. They often, however, disappoint the expectations both of the physician and his patient. The most celebrated among the class of carminatives are juniper berries; the roots of ginger and zedoary; the seeds of anise, caraway, and coriander; gum assafetida and opium; the warm waters, tinctures, and spirits, as the aromatic water, the tincture of woodsoot, the volatile aromatic spirit, ether, &c.

* Many nervous people find great benefit from eating a dry biscuit, especially when the stomach is empty. I look on this as one of the best carminative medicines; and would recommend it in all complaints of the stomach, arising from flatulence, indigestion, want of food, &c.

Dr. Whyte says, he found no medicine more efficacious in expelling wind than ether and laudanum. He generally gave the laudanum in a mixture with peppermint water and tincture of castor, or sweet spirit of nitre. Sometimes, in place of this, he gave opium in pills with assafetida. He observes, that the good effects of opiates are equally conspicuous; whether the flatulence be contained in the stomach or intestines; whereas those warm medicines, commonly called *carminatives*, do not often give immediate relief, except when the wind is in the stomach.

With regard to ether, the doctor says, he has often seen very good effects from it in flatulent complaints, where other medicines failed. The dose is a teaspoonful, mixed with two tablespoonfuls of water.* In gouty cases, he observes, that ether, 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 antihysterical and stomach plaster may be spread on 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 Bates'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 tablespoonful 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 bed time:—

Take of assafetida two drachms; succotrine aloes, salt of

* Though the patient may begin with this quantity, it will be necessary to increase the dose gradually as the stomach can bear it. Ether is now given in considerably greater doses than it was in Dr. Whyte's time.

iron, and powdered ginger, of each, one drachm; 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 effects.

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 on 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 labor, or such active amusements as give exercise to every part of the body.

OF LOW SPIRITS.

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 obstruction in the hypochondriacal viscera, aloetic purges will be proper. I have sometimes known the Harrogate or Tunbridge water of service in this case.

When low spirits proceed from a suppression of the menstrual, or of the hemorrhoidal 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 low spirits have 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 humors, 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.

OF HYSTERICAL AFFECTIONS.

THESE likewise belong to the numerous tribe of nervous diseases, which may be justly 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 hysterical complaints. In such persons, an hysterical fit, as it is called, may be brought on by an irritation of the nerves of the stomach or intestines, by wind, acrid humor, or the like. A sudden suppression of the *menses* often gives rise to hysterical fits. They may likewise be excited by violent passions or affections of the mind, as fear, grief, anger, or great disappointments.

Sometimes the hysterical 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 hysterical 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 hysterical paroxysm is often introduc-

* And not unfrequently of the patient, as they are often brought on by a blameable neglect of the means of health.

ed 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 hysterical 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 the 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 hysterical 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 spirit 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 assafetida, will be proper; and, as soon as the patient can swallow, two tablespoonfuls of a solution of assafetida, or of some cordial julep, may be given frequently.*

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 spirit. A cool, dry air is the best. Cold bathing, and everything 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.

* When hysterical 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 burnt to death. But this method of cure, to my knowledge, will not always succeed. I would therefore advise, that young ladies, who are subject to hysterical 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.

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 elysters. It is often successful in removing those periodical headaches, to which hysterical and hypochondriacal 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 antihysterical plaster to be applied to the *abdomen*.*

Hysterical 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 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. When

* Though antispasmodics and anodynes are universally recommended in this disease, yet all the extraordinary cures that I ever knew in hysterical cases, were performed by means of tonic and corroborating medicines.

spasms or convulsive motions arise from sharp humors in the stomach or intestines, no lasting relief can be procured till these are either corrected or expelled. The Peruvian bark has sometimes cured periodical convulsions, after other medicines had failed.

OF HYPOCHONDRIACAL AFFECTIONS.

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 a 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.

Hypochondriacal persons ought never to fast long, and their food should be solid and nourishing. All acescent and windy vegetables are to be avoided. Fleshmeats 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 assafetida, with as much of the *elixir proprietatis* 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 assafetida 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 everything 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 these 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 hemorrhages, 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 a 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 on 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 frequently 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 humors. 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 humors. On the other hand, when the food is not sufficiently nourishing, or is taken too seldom, the bowels are inflated with wind, and the humors, 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 labor 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 unfavorable posture, really deserve our pity. We have in a former part of the book endeavored 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

* Armstrong on Health.

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 on 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 honor. 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, haggard appearance, by which the votaries, or rather the victims, of fashion may, in general, be distinguished. It is by no means adviseable 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 attaining this 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 a special 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. XLV.

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 most 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.*

* It is a pity those who have the misfortune to be born blind, or who lose their sight when young, should be suffered to remain in ignorance, or to beg. This is both cruelty and want of economy. 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.

The eyes are hurt by viewing bright or luminous objects; keeping the head too long in a hanging posture; violent headaches; 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. All kinds of excess are likewise hurtful to the sight, particularly the immoderate use of ardent spirits, and other strong liquors.

In all diseases of the eyes, especially those attended with inflammation, the cold regimen ought to be observed. The patient must abstain from all spirituous liquors. The smoke of tobacco, smoky rooms, the vapors of onions and garlic, and all vivid lights and glaring colors, are carefully to be avoided. The drink may be water, whey, or small beer; and the aliment must be light and of easy digestion.

For preventing disorders of the eyes, issues and setons are of prime use. Every person, whose eyes are tender, ought to have one or more of these in some part of the body. It will likewise be of use to keep the body gently open, and either to bleed or purge every spring and fall. All excess and night studies are to be avoided. Such as do not choose a seton or an issue, will reap benefit from wearing a small Burgundy pitch plaster between their shoulders.

A *gutta serena*, or *amaurosis*, is an abolition of the sight, without any apparent cause or fault in the eyes. When it is owing to a decay or wasting of the optic nerve, it does not admit of a cure; but when it proceeds from a compression of the nerves, by redundant blood, this may in some measure be drained off, and the patient relieved. For this purpose, the body must be kept open with the laxative mercurial pills. If the patient be young, and of a sanguine habit, he may be bled. Cupping, with scarifications on the back part of the head, will likewise be of use. But the most likely means for relieving the patient are issues or blisters, kept open for a long time, on the back part of the head, behind the ears, or on the neck. I have known these restore sight, even after it had been for a considerable time lost.

Should these fail, recourse must be had to a mercurial salivation; or, what will perhaps answer the purpose better, twelve grains of the corrosive sublimate of mercury may be dissolved in an English pint and a half of brandy, and a table-

spoonful of it taken twice a day, drinking half a pint of the decoction of sarsaparilla after it.

A *cataract* is an obstruction of the pupil, by the interposition of some opaque substance, which either diminishes or totally extinguishes the sight. It is generally an opacity of the crystalline humor. In a recent or beginning cataract, the same medicines are to be used as in the *gutta serena*; and they will sometimes succeed. But when this does not happen, and the cataract becomes firm, it must be couched, or rather extracted. I have resolved a recent cataract by giving the patient frequent purges with calomel, keeping a poultice of fresh hemlock constantly upon the eye, and a perpetual blister on the neck.*

The *myopia*, or *shortsightedness*, and the *presbyopia*, or *seeing only at too great a distance*, are disorders which depend on the original structure or figure of the eye; therefore admit of no cure. The inconveniencies 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.

A *strabismus*, or *squinting*, depends on 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 play-fellow, &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.

Spots or *specks* on the eyes are generally the effect of inflammation, and often appear after the smallpox, 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 *bloodshot* eye may be occasioned by a stroke, a fall, retching, vomiting, violent coughing, &c. I have frequently known it happen to children in the whooping cough. It appears at first like a bit of scarlet, and is afterwards of a livid or blackish color. 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 comfrey roots and

* In both these cases electricity merits a trial.

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 this 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.*

OF THE EAR.

THE functions of the ear may be injured by wounds, ulcers, or anything 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 of 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.†

* A weeping or watery eye is often the mark of a scrofulous habit.

† 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,

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 liquid opodeldoc, or tincture of assafetida, 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.

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. 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. 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.*

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.

* A new operation for removing deafness has lately been proposed by Mr. Astley Cooper, surgeon, of London. It consists in perforating the tympanum or drum of the ear. As this operation is neither attended with any degree of pain nor of danger, and is frequently successful, it certainly merits a trial in all cases where it may be judged proper. A. P. B.

OF THE 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 loose 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 the 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 origin. A defect or too great a degree of solidity, of the small spongy 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 fetid matter in these 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 vapors 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 vapor of vinegar on 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 meantime, the following things may be of use:—If there be a bitter taste, it may be taken away by vomits, purges, and other things, which evacuate a bile. What is called a nidorous taste, arising from putrid humors, is corrected by the juice of citrons, oranges, and other acids. A salt taste is cured by a plentiful dilution with watery liquors. An acid taste is destroyed by absorbents, and alkaline salts, as powder of oyster shells, salt of wormwood, &c.

When the sensibility of the nerves, which supply the organs of taste, is diminished, the chewing of horseradish, or other stimulating substances, will help to recover it.

* The most efficacious sternutatory, and which will frequently be found useful in obstinate headaches, 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. A. P. B.

OF THE TOUCH.

THE sense of touching may be hurt by anything that obstructs the nervous influence, or prevents its being regularly conveyed to the organs of touching; as pressure, extreme cold, &c. It may likewise be hurt by too great a degree of sensibility, when the nerve is not sufficiently covered by the cuticle or scarf-skin, or where there is too great a tension of it, or it is too delicate. Whatever disorders the functions of the brain and nerves, hurts the sense of touching. Hence it appears to proceed from the same general causes as palsy and apoplexy, and requires nearly the same mode of treatment.

In a *stupor*, or defect of touching, which arises from an obstruction of the cutaneous nerves, the patient must first be purged; afterwards, such medicines as excite the action of the nerves, or stimulate the system, may be used. For this purpose the spirit of hartshorn, *sal volatile oleosum*, horseradish, &c. may be taken inwardly; the disordered parts, at the same time, may be frequently rubbed with fresh nettles, or spirit of *sal ammoniac*. Blistering plasters and sinapisms applied to the parts will likewise be of use, as also warm bathing, especially in the natural hot baths.

In a work like this, which is wholly designed for popular instruction, it would have been a useless display of anatomical skill to mention such disorders of the senses as admit of no remedy, because they are owing to a defect in the organization or structure of the brain, whence the nerves, the fine organs of sensation, take their rise. But it may be proper to make a few remarks on one or two general causes of nervous weakness, and of consequent debility or imperfection of the senses, which proceed wholly from our own misconduct.

Nothing so much relaxes the nervous system, so much blunts the acuteness of every sense, and destroys its energy, as intemperance. To say of a man when drunk, that *he has lost his senses*, is literally true in the most comprehensive meaning of the word. He can neither see, hear, taste, smell nor feel, with exactness; and though he may flatter himself, that, with the return of sobriety, he recovers his senses also, yet they become more and more impaired by every debauch, till frequent repetitions of the frantic indulgence consign him to blindness, to deafness, and to the grave. Excess in eating produces similar effects, and, like the touch of the torpedo, benumbs every faculty. It particularly vitiates the taste and smell, and thus defeats the chief purposes for which these senses were given,—to

inform us of the wholesome or noxious properties of everything we eat and drink.

Uncleanliness is also highly injurious to the organs of sensation. Perhaps the benignity of nature is not displayed in anything more strongly than in the warnings she gives of this evil, and in her own endeavors 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 these delicate organs from all impurities! The uneasiness we feel on such occasions ought to rouse our immediate attention. Shall we suffer dirt to gather on the skin, to dull the sense of feeling, to obstruct the pores, and to drive back into the system the noxious particles, which nature endeavors 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 basin 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 this 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. XLVI.

OF A SCIRRHUS AND CANCER.

A SCIRRHUS is a hard, indolent tumor, usually seated in some of the glands; as the breasts, the armpits, &c. If the tumor becomes large, unequal, of a livid, blackish, or leaden color, 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 fetid smell, is discharged from the sore, it is called an open, or ulcerated cancer. Persons after the age of fortyfive, particularly women, and those who lead an indolent, sedentary life, are most subject to this disease.

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, blows, 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 tumor, about the size of a hazelnut, 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 tumor irritated by pressure, or improper treatment of any kind, it begins to extend itself towards the neighboring 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 color 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 tumor is very hard, rough, and unequal, with a protuberance, or rising, in the middle; its size increases daily, and the neighboring veins become thick, knotty, and of a blackish color.

The skin at length gives way, and a thin, sharp ichor begins to flow, which corrodes the neighboring parts till it forms a large unsightly ulcer. More occult cancers arise, and communicate with the neighboring glands. The pain and stench become intolerable; the appetite fails; the strength is exhausted by a continual hectic fever. At last, a violent hemorrhage, 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 highseasoned 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 scirrhus tumor 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 drunk daily. I have sometimes discussed hard tumors, which had the appearance of beginning cancers, by a course of this kind.*

Should the tumor, 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 humors corrupted by it. This, however, is the common way, which makes the operation so seldom succeed. 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

* In the incipient stage of cancer, the repeated application of leeches to the part affected, is frequently productive of the most beneficial consequences, and ought never to be neglected.

manifest advantage. 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 encomiums, which the doctor has bestowed on it, yet, in a disease which has so long baffled the boasted powers of medicine, we think it ought always to be tried.

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 cleans the sore, eases the pain, and takes away the disagreeable smell, which are objects of no small importance in such a dreadful disorder.*

Wort, or an infusion of malt, has been recommended not only

* London Medical Essays.

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 neighborhood of the cancer have sometimes good effects.*

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 on the breasts, or other glandular parts.†

In the long catalogue of human afflictions, 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 this does not always succeed. I have frequently seen small tumors 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*;

* 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 above 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.

† As hemlock is the principal medicine recommended in this disease, we should have given some directions for the gathering and preparing of this 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.

OF POISONS.

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 this 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 lapdog 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.

CHAP. XLVII.

OF POISONS.

EVERY person ought, in some measure, to be acquainted with the nature and cure of poisons. They are generally 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 physicians. Happily, indeed, no great degree of medical knowledge is here necessary; the remedies for most poisons being

* In a work lately published on cancer by a Mr. Carmichael, a number of cases are adduced in favor 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 a 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 candor, in so deplorable a disease, the remedy proposed by him certainly merits a trial.

A. P. B.

generally at hand, are easily obtained, and nothing but common prudence needful in the application of them.

The vulgar notion, that every poison is cured by some counter poison, as a specific, has done much hurt. People believe they can do nothing for the patient, unless they know the particular antidote to that kind of poison which he has taken. Whereas the cure of all poisons taken into the stomach, without exception, depends chiefly on discharging them as soon as possible.

There is no case wherein the indications of cure are more obvious. Poison is seldom 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 anything 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 generally be avoided. The method of prevention is obvious, and the means are in the hands of every one.

We shall not take up the reader's time with a detail of the ridiculous notions, which have prevailed among ignorant people in different ages with regard to poisons; neither shall we mention the boasted antidotes, which have been recommended either for preventing or obviating their effects; but shall content ourselves with pointing out the poisons most common in this country, and the means of avoiding their dangerous consequences.

Poisons either belong to the mineral, the vegetable, or the animal kingdom.

Mineral poisons are commonly of an acrid or corrosive quality; as arsenic, cobalt, the corrosive sublimate of mercury, &c.

Those of the vegetable kind are generally of a narcotic or stupefactive quality; as poppy, hemlock, henbane, berries of the deadly nightshade, &c.*

Poisonous animals communicate their infection either by the bite or sting. This poison is very different from the former,

* As the state of insensibility of the patient, or various other circumstances, too often prevent the possibility of discovering what particular kind of poison has been swallowed, it is well to be able to distinguish, if possible, by the apparent symptoms, whether it belongs to the vegetable, or to the mineral class.

Vegetable poisons are narcotic; they stupify the intellectual powers, and produce drowsiness.

Mineral poisons do not affect the mental faculties, but cause excruciating pain, especially in the stomach and bowels.

The best antidote to vegetable, or narcotic poisons, as opium, is to drink plentifully of vinegar or lemon juice, mingled with water.

Whereas the deleterious effects of mineral poisons are most effectually counteracted by alkaline solutions, as of common potash, or the liver of sulphur, which ought to be copiously administered, dissolved in water. A. P. B.

and only produces its effects when received into the body by a wound.

MINERAL POISONS.—Arsenic is the most common of this class; and, as the whole of them are pretty similar both in their effects and method of cure, what is said with respect to this will be applicable to every other species of corrosive poison.

When a person has taken arsenic, he soon perceives a burning heat, and a violent pricking pain in his stomach and bowels, with an intolerable thirst, and an inclination to vomit. The tongue and throat feel rough and dry; and, if proper means be not soon administered, the patient is seized with great anxiety, hickuping, faintings, and coldness of the extremities. To these succeed black vomits, fetid stools, with a mortification of the stomach and intestines, which are the immediate forerunners of death.

On the first appearance of these symptoms the patient should drink large quantities of new milk and salad oil till he vomits; or he may drink warm water mixed with oil. Fat broths are likewise proper, provided they can be got ready in time. Where no oil is to be had, fresh butter may be melted and mixed with the milk or water. These things are to be drank as long as the inclination to vomit continues. Some have drank eight or ten English quarts before the vomiting ceased; and it is never safe to leave off drinking while one particle of the poison remains on the stomach.

These oily or fat substances not only provoke vomiting, but likewise blunt the acrimony of the poison, and prevent its wounding the bowels; but if they should not make the person vomit, half a drachm or two scruples of the powder of ipecacuanha must be given, or a few spoonfuls of the oxymel or vinegar of squills may be mixed with the water which he drinks. Vomiting may likewise be excited by tickling the inside of the throat with a feather. Should these methods, however, fail, half a drachm of white vitriol, or five or six grains of emetic tartar, must be administered.

If tormenting pains are felt in the lower belly, and there is reason to fear that the poison has got down to the intestines, clysters of milk and oil must be very frequently thrown up; and the patient must drink emollient decoctions of barley, oatmeal, marshmallows, and such like. He must likewise take an infusion of senna and manna, a solution of Glauber's salts, or some other purgative.

After the poison has been evacuated, the patient ought, for some time, to live on such things as are of a healing and cooling

quality ; to abstain from flesh and all strong liquors, and to live on milk, broth, gruel, light puddings, and other spoon meats of easy digestion. His drink should be barley water, linseed tea, or infusions of any of the mild, mucilaginous vegetables.

VEGETABLE POISONS, besides heat and pain of the stomach, commonly occasion some degree of giddiness, and often a kind of stupidity or folly. Persons who have taken these poisons must be treated in the same manner as for the mineral corrosive.

Though the vegetable poisons, when allowed to remain in the stomach, often prove fatal ; yet the danger is generally over as soon as they are discharged. Not being of such a caustic or corrosive nature, they are less apt to wound or inflame the bowels, than mineral substances. No time, however, ought to be lost in having them discharged.

Opium, being frequently taken by mistake, merits particular attention. It is used as a medicine both in a solid and liquid form, which latter commonly goes by the name of laudanum. It is, indeed, a valuable medicine, when taken in proper quantity ; but, as an overdose proves a strong poison, we shall point out its common effects, together with the method of cure.

An overdose of opium generally occasions great drowsiness, with stupor and other apoplectic symptoms. Sometimes the person has so great an inclination to sleep, that it is almost impossible to keep him awake. Every method must, however, be tried for this purpose. He should be tossed, shaken, and moved about. Sharp blistering plasters should be applied to his legs or arms, and stimulating medicines, as salt of hartshorn, &c. held under his nose. It will also be proper to let blood. At the same time, every method must be taken to make him discharge the poison. This may be done in the manner directed above, by the use of strong vomits, drinking plenty of warm water, with oil, &c.

Mead, besides vomits, in this case, recommends acid medicines with lixivial salts. He says, that he has often given salt of wormwood mixed with juice of lemon in repeated doses with great success.

If the body should remain weak and languid after the poison has been discharged, nourishing diet and cordials will be proper ; but when there is reason to fear, that the stomach or bowels are inflamed, the greatest circumspection is necessary, both with regard to food and medicine.

OF THE BITES OF POISONOUS ANIMALS.

WE shall begin with the bite of a mad dog, as it is both the most common and dangerous animal poison in this country.

The creatures naturally liable to contract this disease are, so far as we yet know, all of the dog kind, as foxes, dogs, and wolves. Hence it is called the *rabies canina*, or dog madness. Of the last we have none in this island; and it so seldom happens that any person is bitten by the first, that they scarcely deserve to be taken notice of. If such a thing should happen, the method of treatment is precisely the same as for the bite of a mad dog.

The symptoms of madness in a dog are as follows:—At first he looks dull, shows an aversion to food and company: he does not bark as usual, but seems to murmur, is peevish, and apt to bite strangers: his ears and tail droop more than usual, and he appears drowsy: afterwards he begins to loll out his tongue, and froth at the mouth, his eye seeming heavy and watery: he now, if not confined, runs panting along with a kind of dejected air, and endeavors to bite every one he meets. Other dogs are said to fly from him. Some think this a certain sign of madness, supposing that they know him by the smell; but it is not to be depended on. If he escapes being killed, he seldom runs above two or three days, till he dies, exhausted with heat, hunger, and fatigue.

The disease is most frequent after long, dry, hot seasons; and such dogs as live on putrid, stinking carrion, without having enough of fresh water, are most liable to it.

When any person has been bitten by a dog, the strictest inquiry 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 bitten 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 bitten any person, to do all in our power to keep him alive, at least till we can be certain whether he be mad or not.

Many circumstances may contribute to make people imagine a dog mad. He loses his master, runs about in quest of him, is set on by other dogs, and perhaps by men. The creature, thus frightened, beaten, and abused, looks wild, and lolls out

his tongue as he runs along. Immediately a crowd is after him; while he, finding himself closely pursued, and taking every one he meets for an enemy, naturally attempts to bite him in self defence. He soon gets knocked on the head, and it passes currently that he was mad, as it is then impossible to prove the contrary.

This being the true history of, by far, the greater part of those dogs which pass for mad, is it any wonder that numberless whimsical medicines have been extolled for preventing the effects of their bite? This readily accounts for the great variety of infallible remedies for the bite of a mad dog, which are to be met with in almost every family. Though not one in a thousand has any claim to merit, yet they are all supported by numberless vouchers. No wonder that imaginary diseases should be cured by imaginary remedies. In this way, credulous people first impose on themselves, and then deceive others. The same medicine which was supposed to prevent the effects of the bite, when the dog was not mad, is recommended to a person who has had the misfortune to be bitten by a dog that was really mad. He takes it, trusts to it, and is undone.

To these mistakes we must impute the frequent ill success of the medicines used for preventing the effects of the bite of a mad dog. It is not owing so much to a defect in medicine, as to wrong applications. I am persuaded, if proper medicines were administered immediately after the bite is received, and continued for a sufficient length of time, we should not lose one in a thousand of those who have the misfortune to be bitten by a mad dog.

This poison is generally communicated by a wound, which nevertheless heals as soon as a common wound: but afterwards it begins to feel painful, and, as the pain spreads towards the neighboring parts, the person becomes heavy and listless. His sleep is unquiet, with frightful dreams; he sighs, looks dull, and loves solitude. These are the forerunners, or rather the first symptoms, of that dreadful disease occasioned by the bite of a mad dog. But as we do not propose to treat fully on the disease itself, but to point out the method of preventing it, we shall not take up time in showing its progress from the first invasion to its commonly fatal end.

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 bitten very unhappy, and can have no good effects. If the person takes proper medicines for forty days after the

time of his being bitten, 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 bitten, but seldom later.

The medicines recommended for preventing the effects of the bite of a mad dog, are chiefly such as promote the different secretions, and antispasmodics.

Dr. Mead recommends a preventive medicine, which he says he never knew fail, though, in the space of thirty years, he had used it a thousand times.

The doctor's prescription is as follows:—

“Take ashcolored ground liverwort, cleaned, dried, and powdered, half an ounce; of black pepper, powdered, a quarter of an ounce. Mix these well together, and divide the powder into four doses; one of which must be taken every morning fasting, for four mornings successively, in half an English pint of cow's milk, warm.

“After these four doses are taken, the patient must go into the cold bath, or a cold spring or river, every morning fasting, for a month; he must be dipped all over, but not stay in (with his head above water) longer than half a minute, if the water be very cold. After this he must go in three times a week for a fortnight longer.

“The person must be bled before he begins to use the medicine.”*

We shall next mention the famous East India specific, as it is called. This medicine is composed of cinnabar and musk. It is esteemed a great antispasmodic, and, by many, extolled as an infallible remedy for preventing the effects of the bite of a mad dog:

“Take native and factitious cinnabar, of each twenty four grains, musk sixteen grains. Let these be made into a fine powder, and taken in a glass of arrac or brandy.”

This single dose is said to secure the person for thirty days, at the end of which it must be repeated; but if he has any symptoms of the disease, it must be repeated in three hours.

The following is likewise reckoned a good antispasmodic medicine:—

“Take of Virginian snakeroot in powder half a drachm, gum assafetida twelve grains, gum camphor seven grains; make these into a bolus with a little syrup of saffron.”

* Though we give this prescription on the credit of Dr. Mead, yet we would not advise any person, who has reason to believe that he has been bitten by a dog which was really mad, to trust to it alone. Mead was an able physician; but he seems to have been no great philosopher, and was sometimes the dupe of his own credulity.

Camphor may also be given in the following manner: "Take purified nitre half an ounce, Virginian snakeroot in powder two drachms, camphor one drachm; rub them together in a mortar, and divide the whole into ten doses."

Mercury is likewise recommended as of great efficacy, both in the prevention and cure of this kind of madness. When used as a preventive, it will be sufficient to rub daily a drachm of the ointment into the parts about the wound.

Vinegar is likewise of considerable service, and should be taken freely, either in the patient's food or drink.

These are the principal medicines recommended for preventing the effects of the bite of a mad dog. We would not, however, advise people to trust to any one of them; but from a proper combination of their different powers, there is the greatest reason to hope for success.

The great error in the use of these medicines lies in not taking them for a sufficient length of time. They are used more like charms, than medicines intended to produce any change in the body. To this, and not to the insufficiency of the medicines, we must impute their frequent want of success.

Dr. Mead says, that the virtue of his medicines consists in promoting urine. But how a poison should be expelled by urine, with only three or four doses of any medicine, however powerful, is not easy to conceive. More time is certainly necessary, even though the medicine were more powerful than that which the doctor prescribes.

The East India specific is still more exceptionable on this account.

As these and most other medicines, taken singly, have frequently been found to fail, we shall recommend the following course:—

If a person be bitten in a fleshy part, where there is no hazard of hurting any large blood vessel, the parts adjacent to the wound may be cut away. But, if this be not done soon after the bite has been received, it will be better to omit it.

The wound may be dressed with salt and water, or a pickle made of vinegar and salt, and afterwards dressed twice a day with yellow basilicon mixed with red precipitate of mercury.

The patient should begin to use either Dr. Mead's medicine, or some of the others mentioned above. If he takes Mead's medicine, he may use it, as the doctor directs, for four days successively. Let him then omit it for two or three days, and again repeat the same number of doses as before.

During this course he must rub into the parts about the wound, daily, one drachm of the mercurial ointment. This may be done for ten or twelve days at least.

When this course is over, he may take a purge or two, and wait a few days till the effect of the mercury be gone off. He must then begin to use the cold bath, into which he may go every morning for five or six weeks. If he should feel cold and chilly for a long time after coming out of the cold bath, it will be better to use a tepid one, or to have the water a little warmed.

In the meantime, we would advise him not to leave off all internal medicines, but to take either one of the boluses of snake-root, assafetida, and camphor; or one of the powders of nitre, camphor, and snakeroot, twice a day. These may be used the whole time he is bathing.

During the use of the mercurial ointment, the patient must keep within doors, and take nothing cold.

A proper regimen must be observed throughout the whole course. The patient should abstain from flesh, and all salted and highseasoned provisions. He must avoid strong liquors, and live mostly on a light and rather spare diet. His mind should be kept as easy and cheerful as possible, and all excessive heat and violent passions avoided with the utmost care.

I have never seen this course of medicine, with proper regimen, fail to prevent the hydrophobia; and cannot help again observing, that the want of success must generally be owing either to the application of improper medicines, or not using proper ones for a sufficient length of time.

Mankind are extremely fond of everything that promises a sudden or miraculous cure. By trusting to these, they often lose their lives, when a regular course of medicine would have rendered them absolutely safe. This holds remarkably in the present case. Numbers of people, for example, believe, if they or their cattle were once dipped in the sea, it is sufficient; as if the salt water were a charm against the effects of the bite. This, and such like whims, have proved fatal to many.

It is a common notion, if a person be bitten by a dog which is not mad, that, if he should go mad afterwards, the person would be affected with the disorder at the same time; but this notion is too ridiculous to deserve a serious consideration. It is a good rule, however, to avoid dogs as much as possible, as the disease is often on them for some time before its violent symptoms appear. The hydrophobia has been occasioned by the bite of a dog, which showed no other symptoms of the disease, but listlessness and a sullen disposition.

Though we do not mean to treat fully of the cure of the hydrophobia, yet we are far from reckoning it incurable. The notion that this disease could not be cured, has been productive of the most horrid consequences. It was usual either to aban-

don the unhappy persons, as soon as they were seized with the disease, to their fate, to bleed them to death, or to suffocate them between mattresses or feather beds, &c. This conduct certainly deserved the severest punishment! We hope, for the honor of human nature, it will never again be heard of.

I have never had an opportunity of treating this disease, and therefore can say nothing of it from my own experience; but the learned Dr. Tissot says, it may be cured in the following manner:—

1. The patient must be bled to a considerable quantity; and this may be repeated twice or thrice, or even a fourth time, if circumstances require it.

2. The patient should be put, if possible, into a warm bath; and this should be used twice a day.

3. He should every day receive two, or even three emollient clysters.

4. The wound, and the parts adjoining to it, should be rubbed with mercurial ointment twice a day.

5. The whole limb which contains the wound should be rubbed with oil, and be wrapped up in an oily flannel.

6. Every three hours a dose of Cobb's powder should be taken in a cup of the infusion of lime tree and elder flowers. This powder is made by rubbing together in a mortar, to a very fine powder, of native and factitious cinnabar, each, twentyfour grains; of musk, sixteen grains.*

7. The following bolus is to be given every night, and to be repeated in the morning, if the patient be not easy, washing it down with the infusion mentioned above:—Take one drachm of Virginian snakeroot in powder; of camphor and assafetida, ten grains each; of opium, one grain; and, with a sufficient quantity of conserve, or rob of elder, make a bolus.

8. If there be a great nausea at the stomach, with a bitterness in the mouth, thirtyfive or forty grains of ipecacuanha, in powder, may be taken for a vomit.

9. The patient's food, if he takes any, must be light; as panada, soups made of farinaceous or mealy vegetables, &c.

10. If the patient should long continue weak, and subject to terrors, he may take half a drachm of the Peruvian bark thrice a day.

* The Ormskirk medicine, as it is called, seems to me to consist chiefly of cinnabar. Though it is said to be infallible as a preventive, yet I would not advise any one to trust to it alone. Indeed, it is ordered to be taken in a manner which gives it more the appearance of a charm than of a medicine. Surely, if a medicine is to produce any change in the body, it must be taken for some considerable time, and in sufficient quantity.

THE next poisonous animal which we shall mention is the VIPER. The grease of this animal, rubbed into the wound, is said to cure the bite. Though this is all the viper catchers generally do when bitten, we should not think it sufficient for the bite of an enraged viper. It would surely be more safe to have the wound well sucked,* and afterwards rubbed with warm olive oil. A poultice of bread and milk, softened with olive oil, should likewise be applied to the wound; and the patient ought to drink freely of vinegar whey, or water gruel with vinegar in it, to make him sweat. Vinegar is one of the best medicines which can be used in any kind of poison, and ought to be taken very liberally. If the patient be sick, he may take a vomit. This course will be sufficient to cure the bite of any of the poisonous animals of this country.

With regard to poisonous insects, as the bee, the wasp, the hornet, &c. their stings are seldom attended with danger, unless when a person happens to be stung by a great number of them at the same time; in which case something should be done to abate the inflammation and swelling. Some, for this purpose, apply honey; others lay pounded parsley to the part. A mixture of vinegar and Venice treacle is likewise recommended; but I have found rubbing the part with warm olive oil, or frequently repeated applications of pledgets dipped in laudanum, succeed very well. Indeed, when the stings are so numerous as to endanger the patient's life, which is sometimes the case, he must not only have oily poultices, or pledgets moistened with laudanum applied to the part, but should likewise be bled, and take some cooling medicines, as nitre, or cream of tartar, and should drink plentifully of diluting liquors.

It is the happiness of this island to have very few poisonous animals, and those which we have are by no means of the most virulent 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

* The practice of sucking out poisons is very ancient; and, indeed, nothing can be more rational. Where the bite cannot be cut out, this is the most likely way for extracting the poison. There can be no danger in performing this office, as the poison does no harm, unless it be taken into the body by a wound. The person who sucks the wound ought, however, to wash his mouth frequently with olive oil, which will secure him from even the least inconvenience. The *Psyli* in Africa, and the *Marsi* in Italy, were famed for curing the bites of poisonous animals, by sucking the wound; and we are told, that the Indians in North America practice the same at this day.

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 neighborhood of all towns and villages; which, by the by, 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 expense.

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 on their guard with respect to the former, and to put the latter entirely 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 everything 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 on 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 on 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: 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 sweat, urine, and insensible perspiration; to which may be joined antispasmodics, or such medicines as take off tension and irritation; the chief of which are opium, musk, camphor, and assafetida.

CHAP. XLVIII.

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 benefited 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 milkmaid, 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 female, with regard to bodily strength and vigor, 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 on 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 on both sexes have been already shown, we shall proceed to point out those circumstances in the structure and designation of females, which subject them to peculiar diseases; the chief of which are, their *monthly evacuations, pregnancy, and childbearing*. 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.

OF THE MENSTRUAL DISCHARGE.

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 depends, in a great measure, on her conduct at this period.*

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 vigor 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.

* It is the duty of mothers, and those who are entrusted 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.

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 humors 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 vapors 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.

Nature's broad chest in stiffest whalebone cas'd,
Defeats the intention of a perfect waist.

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, assafetida, 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, everything should be carefully avoided, which may obstruct this necessary and salutary evacuation; and all means used to promote it; as sitting frequently over the steams of warm water, drinking warm diluting liquors, setting the hips in a bath of warm water, &c.

After the *menses* have once begun to flow, the greatest care should be taken to avoid everything 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. Everything 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 everything 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 on 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.

So 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 provision of nature 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; riding on horseback. 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 wineglass 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.

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 humors, 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 on a spare, thin diet. Her drink should be whey, water, or small beer, and she ought to take sufficient exercise. A tea-spoonful 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 behavior 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 this discharge, which might be dangerous, we ought by all means to endeavor to restore the patient's health and strength. When this is effected, the other will return of course.

But the menstrual flux may be too great as well as too small. When this happens, the patient becomes weak, the color pale, the appetite and digestion are bad, to which edematous swellings of the feet, dropsies, and consumptions, often ensue. This frequently happens to women about the age of fortyfive or fifty, and is very difficult to cure. It may proceed from a sedentary life; a full diet, consisting chiefly of salted, highseasoned, 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 flux, 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 on a cool and slender diet, as veal or chicken broths with bread; and to drink decoctions of nettle roots, or the greater comfrey. 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.*

The *uterine flux* 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 color. Sometimes it is sharp and corrosive, sometimes foul and fetid, &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

* 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 tablespoonfuls 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.

proceeds from a relaxed state of the body, arising from indolence, the excessive use of tea, coffee, or other weak and watery diet.

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 Pymont, Bristol, or lime water. Tea and coffee are to be avoided. I have often known strong broths have an exceedingly good effect; and sometimes a milk diet alone will perform a cure. The patient ought not to lie too long in bed. When medicine is necessary, we know none preferable to the Peruvian bark, which in this case ought always to be taken in substance. In warm weather, the cold bath will be of considerable service.

That period of life at which the *menses* cease to flow, is likewise very critical to the sex. The stoppage of any habitual 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 vigor to a very great age.

If the *menses* cease all of a sudden, 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.

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.

OF PREGNANCY.

THOUGH pregnancy is not a disease, yet this state is 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 the general case. Most of them *breed in sorrow*, and are frequently indisposed during the whole time of pregnancy. Few fatal diseases, however, happen during this period ; and hardly any, except abortion, that can be called dangerous.

Pregnant women are often afflicted with the heartburn. The method of treating this complaint has been already pointed out. They are likewise, in the more early periods of pregnancy, often harassed with sickness and vomiting, especially in the morning. The method of relieving these complaints has also been shown. Both the headache and toothache are very troublesome symptoms of pregnancy. The former may generally be removed by keeping the body gently open, by the use of prunes, figs, roasted apples, and such like. When the pain is very violent, bleeding may be necessary. For the treatment of the latter, we must refer to that article. Several other complaints incident to pregnant women might be mentioned, as a cough and difficulty of breathing, suppression and incontinency of urine, &c. ; but as all of these have been taken notice of before, it is needless to repeat them.

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.

* Every mother who procures an abortion does it at the hazard of her life ; yet there are not a few who run this risk merely to prevent the trouble of bearing and bringing up children. It is surely a most unnatural crime, and cannot, even in the most abandoned, be viewed without horror ; but in the decent matron, it is still more unpardonable.—Those wretches who are willing to lend their assistance to women in this business, deserve, in my opinion, the most severe of all human punishments.

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 humors 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 everything 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 anything 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 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 tablespoonfuls 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 this period arrives. By this means, and observing the regimen above prescribed, they might often escape this 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.

 OF CHILDBIRTH.

MANY diseases proceed from the want of due care in childbed; 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 labor pains are ended, that 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 *fetus*; 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 childbed, generally recover worst. But this is not peculiar to the state of childbed. Excessive care always defeats its own intention, and is generally more dangerous than none at all.*

During actual labor, nothing of a heating nature ought to be given. The woman may now and then take a little panada; and her drink ought to be toast and water, or thin groat gruel. Spirit, wine, 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 labor. Besides, they endanger the woman afterwards, as they often occasion violent and mortal hemorrhages, or dispose her to eruptive and other fevers.

When the labor 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

* Though the management of women in childbed has been practised as an employment since the earliest accounts of time, yet it is still in most countries on a very bad 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 has any education, or proper knowledge of their business. It is true, that nature, if left to herself, will generally expel the *fetus*; but it is equally true, that most women, in childbed, 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 be the means of saving many lives.

* Was any female ever duly qualified? I believe not,

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 labors; and in all preternatural cases, a skilful surgeon, or man midwife, ought to be called as soon as possible.

After delivery, the woman ought to be kept as quiet and easy as possible.* Her food should be light and thin, as gruel, panada, &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 childbed 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 flux of the *menses*. If the flooding proves 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 thighs: these must be changed as they grow dry, and may be discontinued as soon as the flooding abates.†

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.‡

* 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 on 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.

† In a violent flooding after delivery, I have seen very good effects from the following mixture:—Take of pennyroyal water, simple cinnamon water, and syrup of poppies, each, two ounces, elixir of vitriol a drachm. Mix, and take two table spoonfuls every two hours, or oftener, if necessary.

‡ 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.

When the patient is low spirited, or troubled with hysterical complaints, she ought to take frequently twelve or fifteen drops of the tincture of assafetida in a cup of pennyroyal tea.

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 on 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 hickup; a discharge of reddish, stinking, sharp water from the womb; an inclination to go frequently to stool; a heat, and sometimes total suppression of urine.

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.

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 breast, 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 childbed.

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 every four or five hours, till the tumor 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.*

* Suppuration, however, in these cases, should always be prevented if possible. I know of no application so useful in removing the swelling, hardness,

When the nipples are fretted or chapped, they may be anointed with a mixture of oil and beeswax, 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.

The miliary fever is a disease incident to women in childbed; but, as it has been treated of already, we shall take no further notice of it. The celebrated Hoffman observes, that this fever of childbed 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 labor is coming on, it is not to be hastened with forcing medicines, which inflame the blood and humors, or put them into unnatural commotions. Care should be taken, after the birth, that the natural excretions proceed regularly; and, if the pulse be quick, a little nitrous powder, or some other cooling medicines, should be administered.

The most fatal disorder consequent on delivery is the *puerperal*, or childbed, fever. It generally makes its attack on 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 colored, 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

lumps, heat and tenderness of the breast, as the following. It should be applied every hour or two, pleasantly warm, by bathing the part affected with it three or four minutes, and then covering the breast with it by means of two or three thicknesses of cotton cloth, or one or two of flannel:

Dissolve two drachms of sal ammoniac in three gills of water; add one ounce of spirit, one of vinegar, and one tablespoonful of goose oil.

The strength of this lotion should vary with the tenderness and sensibility of the part. It should never be so strong as to give more than a slight and temporary smarting. It frequently answers every good purpose without producing any pain or uneasiness.

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 rigor, 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.*

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;

* Midwives ought to be very cautious in administering vomits or purges to women in childbed. 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.

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 childbed ought to be kept perfectly easy; her food should be light and simple, and her bedchamber cool and properly ventilated. There is not anything 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.

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, on 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 childbed 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; some of them infected by dead bodies; and 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.

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 humors, and prevents fecundity. We seldom find a barren woman among the laboring poor, while nothing is more common among the 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 on 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 fluids, but induces a general relaxation of the solids; a state highly unfavorable 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,

anything offensive to real modesty. Yet I have not suppressed, from motives of false delicacy, what I thought might be of importance 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. XLIX.

DISEASES OF CHILDREN.

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 on 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. Everything 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

* Of the officious and ill judged care of midwives, we shall adduce only one instance,—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 on a piece 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.

affections of the bowels, or what the good women call inward fits, and at last convulsions and death.

As these symptoms evidently arise from something 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-spoonfuls 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.

This medicine 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 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 newborn infant are filled with a blackish 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, 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 doses of syrup, oils, and other indigestible stuff, crammed down their throats.

THE APHTHÆ, OR THRUSH.

THE apthæ 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 apthæ are of a pale color, pellucid, few in number, soft, superficial, and fall easily off, they are not dangerous; but if opaque, yellow, brown, black, thick, or running together, they ought to be dreaded.

It is generally thought, that the apthæ owe their origin to acrid humors. 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 liquids, 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 apthæ are vomits, such as have been already recommended, and gentle laxatives. Five grains of rhubarb, and half a drachm of magnesia, 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 this 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 piece of soft rag tied to the end of a probe.

OF ACIDITIES.

THE food of children being for the most part of an acescent nature, it readily turns sour on 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 spirit may be mixed with thrice the quantity of warm water, and a teaspoonful 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 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 on 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 spirit of wine.

* See Appendix, *Laxative absorbent Mixture*.

† Twenty drops of the spirit 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.

 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 anything 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 anything 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 on cleansing the stomach. This may be done by a few grains of ipecacuanha, 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 sensi-

* 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.

bility, 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 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 *theriaca*.

OF A LOOSENESS.

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 humors, which would otherwise tend to relax the habit.

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 humors. The best purge, however, in this case, is magnesia. It is at the same time absorbent and laxative, and operates without exciting gripes.

The wine of ipecacuanha, 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, on the first appearance of a looseness, fly immediately to the use of absorbent medicines and astringents. If these be administered before the offending humors 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 teaspoonful 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.

OF 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 humors, 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 humors. These must either break out in form of eruptions on 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 *linea 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 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 piece 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 humors, and a fulness of the vessels; which being often repeated, the vessels are at last overdistended, 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

* 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. On 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 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 neighboring country.

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.

This disease generally prevails in cold and wet seasons. It is most common on the seacoast, 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 clothes, or anything 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 color.

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 tablespoonful of the following julep:—Take pennyroyal water three ounces, syrup of althea and of poppies, each, one ounce; mix them together.

Assafetida 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 assafetida may be dissolved in one ounce of Mindererus's spirit, and three ounces of pennyroyal water. A tablespoonful 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 assafetida may be dissolved in a common clyster, and administered every six or eight hours, till the violence of the disease abates.*

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.

‘In this rapid and formidable disease, it is best to send at once for medical aid.’ C.

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 *molars*, or grin-

* I was lately favored with a letter from Dr. William Turnbull, in London, a physician of great experience, and who, from his former situation on the northeast 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 spoonfuls of the following decoction:—Take of garlic and distilled vinegar, each, an ounce, hysop 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.

ders. About the seventh year, there comes a new set; and about the twentieth, the two inner grinders, called *dentes sapientie*, 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, tumors 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 limetree flowers; to which about a third or fourth part of milk may be added.

If the fever be high, bleeding will be necessary. An emetic, opening the pores of the skin, and the bowels, are also frequently adviseable, according to circumstances.

Sydenham says, that in fevers occasioned by teething, he never found any remedy so effectual as two, three, or four drops of spirit 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.

Children are generally at this time disposed to chew whatever they get into their hands. For this reason they ought never to be without something that will yield a little to the pressure of their gums, as a crust of bread, a piece of liquorice root, or such like.

Cutting the gums down to the tooth, at the proper time, is very useful, and should never be omitted in painful dentition.

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 necklaces*, or other nonsensical amulets, worn for that purpose.

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 on weak, watery diet, can neither be expected to bring forth strong and healthy children, nor 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 smallpox, measles, teething, the chin-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 of milk to nourish the child, it 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. Rickety 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 wineglass 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; this must depend chiefly on 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 rickety 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 humors. 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 anything that irritates the alimentary canal: likewise by teething, strait clothes, the approach of the smallpox, 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 meantime 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 smallpox or measles, generally go off on 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, assafetida, or castor. 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, so 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. 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 scirrhus tumors 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 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 blisters 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 everything 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,

* 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.

† 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 this 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.

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, syruplike substance contained in the intestines of a newborn infant, when the purgative quality of his mother's milk is so admirably suited to this 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 smallpox is the only infectious disease, for which I would have him prepare by any particular process, because this process is so easy and certain, besides affording a perfect command both of time and circumstances.

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 on 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, and 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 on such emergencies.

OF 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, &c. 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, sciatic pains, coughs, headaches, rheumatism, the apoplexy, epilepsy, and dysentery. After falls, blows, bruises, or any violent hurt, received either externally or internally, bleeding is often 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 a 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 let 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.

From whatever part of the body blood is to be taken, 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 wound is intended to be made.

Persons not skilled in anatomy ought never to bleed 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 whipcord 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, while another will lose almost the whole blood of his body before he faints. Swooning depends more on 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.

Certain hurtful 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 blood 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 is obtained.

We shall not spend time in describing the manner of performing this operation: that will be better learned by example than precept. Twenty pages of description would not convey so just an idea of the operation as seeing it once performed by an expert hand. Neither is it necessary to point out the different parts of the body whence blood may be taken, as the arm, foot, forehead, temples, neck, &c. These will readily occur to every intelligent person, and the foregoing observations will be sufficient for determining which of them is most proper on any particular occasion. In all cases where the intention is merely to lessen the general mass of blood, the arm is the most commodious part of the body, in which the operation can be performed.

OF INFLAMMATIONS AND ABSCESES.

FROM whatever cause an inflammation proceeds, it must terminate either by dispersion, suppuration, or gangrene. Though it is impossible to foretell 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 on colds, and without any previous indisposition, will most probably be dispersed; those which follow close on 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, one fourth of vinegar, and afterwards covered with a piece of wax plaster.

If, notwithstanding these applications, the symptomatic fever increases, and the tumor 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 on 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 colors, spread all over it; the tumor 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 basilicon 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. 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 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

* 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.

an incision, if necessary; afterwards, the sore may be dressed with yellow basilicon, or some other digestive ointment.

OF 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 so 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 favorable to nature's efforts.

With this simple view, we shall consider the treatment of wounds, and endeavor 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, ought to be extracted, and the wound cleaned, before any dressings be applied. When this 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 spirit 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 on 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 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 mouths 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 piece 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 neces-

* 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 this 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 beaten 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.

sary. When a wound penetrates deep, it is not safe to keep its 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;* and the whole must be kept on by a proper bandage.

We shall not spend time in describing the different bandages that may be proper for wounds in different parts of the body. Common sense will generally suggest the most commodious method of applying a bandage. Besides, descriptions of this kind are not easily understood or remembered.

The first dressing ought to continue on for at least two or three 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 the next dressing. Afterwards, the wound may be dressed twice a day in the same manner till it be quite healed. Those who are fond of salves or ointments, may, after the wound is become very superficial, dress it with the yellow basilicon;† 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.

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 every four or five hours.

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 flesh, strong liquors, and everything 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. Everything that ruffles the mind, or moves the passions, as love, anger, fear, excessive joy, &c. are very hurtful. They

* See Appendix, *Wax Plaster*.

† See Appendix, *Yellow Basilicon*.

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.

OF BURNS.

IN slight burns, where the texture of the skin is not destroyed, the first thing to be attempted is to reduce the heat and inflammation. In this case cold water should be applied as soon as possible, and continued till lead water can be obtained, and this should be used for some time, or till the heat and smarting subside, when it should be changed for a mixture of equal parts of lime water and linseed oil, to be shaken together. In burns not severe, these applications are commonly sufficient to complete the cure.

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 of prevention must be used, 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 spirit 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 basilicon. 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.

OF 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, spirit of wine, or other ardent spirit, which is commonly used in such cases.

When a bruise is very violent, the patient ought immediately to be bled, and put on a proper regimen. 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 of 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 chamomile 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, or oftener.

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 on soft lint, over which a poultice of bread and milk, with boiled chamomile 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.

OF ULCERS.

ULCERS may be the consequence of wounds, bruises, or imposthumes improperly treated; they may likewise proceed from an ill state of the humors, or what may be called a bad habit of body.

In the latter case, they ought not to be hastily dried up; otherwise 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 humor, 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 labor 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 on as their executioners.

The most proper regimen for promoting the cure of ulcers is, to avoid all spices, salted and highseasoned 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 buttermilk, 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 yellow basilicon ointment. Sometimes it will be necessary to have the edges of the ulcer scarified with the lancet.

Lime water 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.

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 tablespoonful 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 a solution of a triple strength was very beneficial."*

OF THE FISTULA IN ANO.

'ULCERS in the neighborhood of the anus are peculiarly liable to become fistulous, and when in this state are very diffi-

* In ulcers of the lower limbs, great benefit is often received from tight rollers, or wearing a laced stocking, as this prevents the flux of humors to the sores, and disposes them to heal.

cult 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 color, occasionally accompanied with a little blood, will be found on the linen; the feces are also slightly streaked with matter. This matter issues from a small ulcer with one or more orifices, in the neighborhood of the anus, the other extremity of which generally communicates with the internal cavity of the rectum.

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. Stimulent injections, as, for example, a solution of corrosive sublimate, or of common culinary salt, or diluted tincture of cantharides, 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 Harrogate, improves the constitution in general, and by this 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 this 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.

CHAP. LI.

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 endeavor 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, robust-

ness, 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 dipped in vinegar or camphorated spirit 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 anything, 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 wrapped 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,

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 bloated; his chin lies on his breast, and his face is generally turned towards one side.

To reduce this dislocation, the unhappy person should immediately be laid on 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 shoulders. 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 backbone 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 on his belly on a table, and the operator must endeavor 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 convex 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.

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 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 armpit; 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 on 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 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 forearm 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, by making an extension in different directions, and thrusting the head of the bone into its place.

DISLOCATION OF THE THIGH.

WHEN the thigh bone is dislocated forward and downward, the knee and foot are turned out, and the leg is longer than the other; but when it is displaced backward, it is usually pushed upwards at the same time, by which means the limb is shortened, and the foot is turned inwards.

When the thigh bone is displaced forward and downward, the patient, in order to have it reduced, must be laid on his back, and made fast by bandages, or held by assistants, while, by others, an extension is made by means of slings fixed about the bottom of the thigh, a little above the knee. While the extension is made, the operator must push the head of the bone outward, till it gets into the socket. If the dislocation be outward, the patient must be laid on his face, and, during the extension, the head of the bone must be pushed inward.

Dislocations of the *knees*, *ankles*, and *toes*, are reduced much in the same manner as those of the upper extremities, 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 dislocations. 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.

CHAP. LII.

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 this 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 elysters; 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.

If any of the large bones which support the body are broken, the patient must keep his bed for several weeks. It is by no means necessary, however, that he should lie all that time, as is customary, on his back. This situation sinks the spirits, galls and frets the patient's skin, and renders him very uneasy. After the second week, he may be gently raised up, and may sit several hours, supported by a bed chair, or the like, which will greatly relieve him. Great care, however, must be taken, in raising him up and laying him down, that he make no exertions

himself, otherwise the action of the muscles may pull the bone out of its place.*

It is of great importance to keep the patient dry and clean while in this situation. By neglecting this, he is often so galled and excoriated, that he is forced to keep shifting places for ease. I have known a fractured thigh bone, after it had been kept straight for above a fortnight, displaced by this means, and continue bent for life, in spite of all that could be done.

It has been customary, when a bone was broken, to keep the limb for five or six weeks continually on the stretch. But this is a bad posture. It is both uneasy to the patient, and unfavorable to the cure. The best situation is to keep the joint a little bent. This is the posture into which every animal puts its limbs when it goes to rest, and in which fewest muscles are on the stretch. It is easily effected, by either laying the patient on his side, or making the bed so as to favor this position of the limb.

Bone setters ought carefully to examine whether the bone be not shattered or broken into several pieces. In this case it will sometimes be necessary to have the limb immediately taken off, otherwise a gangrene or mortification may ensue. The horror which attends the very idea of an amputation, often occasions its being delayed in such cases till too late. I have known this principle operate so strongly, that a limb where the bones were shattered into more than twenty pieces, was not amputated before the third day after the accident, when the gangrene had proceeded so far as to render the operation useless.

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

* Various pieces of machinery have been contrived for counteracting the force of the muscles, and retaining the fragments of broken bones; but as descriptions of these without drawings would be of little use, I shall refer the reader to a cheap and useful performance, *On the Nature and Cure of Fractures*, lately published by my ingenious friend Mr. Aitkin, surgeon, in Edinburgh; wherein this gentleman has not only given an account of the machines recommended in fractures by former authors, but has likewise added several improvements of his own, which are peculiarly useful in compound fractures, and in cases where patients with broken bones are obliged to be transported from one place to another.

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 ankles 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 keep himself quite easy, avoiding everything 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.

The most proper external application for a fracture is *oxycrate*, or a mixture of vinegar and water. The bandages should be wet with this at every dressing.

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.

People in the country 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.

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: poultices made of stale beer, or vinegar and oatmeal, camphorated spirit 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.

OF RUPTURES.

HERNIAE, or Ruptures, are not, as the term that has long been adopted would lead us to suppose, a rupture of some of the parts, which form the contents of the cavity of the abdomen or belly, or of both of them. This disease is, in general, the protrusion of a soft part, which yet remains covered by the common integuments, forming a preternatural tumor in the abdomen; and they are differently named according to the places where they are situated. The situations of this protrusion are, the groin, scrotum, and labia pudenda; the upper and fore part of the thigh; the umbilicus, or navel; and different parts between the interstices of the abdominal muscles.

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 bowel 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 on its back, with its head very low.

While in this posture, if the bowel 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 bowel 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 bowel, 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 on his back, with his head very low, and his breech raised high with pillows. In this situation, flannel cloths wrung out of a decoction of mallows and chamomile flowers, or, if these are not at hand, of 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 tumor 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 bowel in by the same aperture through which it came out. The manner of doing this can be much easier conceived than described. Should these endeavors 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. Cutting for the *hernia* is a nice and difficult matter. I would therefore advise surgeons to try every method of returning the bowel before they have recourse to the knife. I have once and again succeeded by persevering in my endeavors, after eminent surgeons had declared the reduction of the bowel impracticable without an operation.*

* 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

An adult, after the bowel has been returned, must wear a 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 arriving at man's estate, should ever be without one of these trusses.

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. LIII.

OF 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 on as killed by any accident, unless where the structure of the heart, brain, or some organ necessary to life, is evidently destroyed. The action of these organs may be so far impaired, as even to be for some time imperceptible, when life is by no means gone. 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 of acting. Thus, when the motion of the lungs has been stopped by unwholesome vapor, 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 into a warm bed, is generally hurried away to a church, or a barn, or some other cold, damp house, where,

he 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 were in attendance.

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 further 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 inquire; but surely the conduct founded on 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 inquire into the cause. We ought carefully to observe whether any substance be lodged in the windpipe or gullet; and, if this 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 on every occasion, and some, who even sleep with the former there all night. This conduct is exceedingly

injudicious, as a fit of coughing, or twenty other accidents, may force down the substance before the person is aware.*

When any substance is detained in the gullet, there are two ways of removing it,—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, fishbones, pieces of glass, &c.

When such substances have not passed in too deep, we should endeavor 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 further 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 fishbone, 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 clude 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

* 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.

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 packthread, 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 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 piece 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 piece 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 piece of tough meat tied to a thread, and drawing it 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 further 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 this 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 this 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 endeavors 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 endeavors, 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 on 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 in-
 lying 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 farinaeous 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 pa-
 tient 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 suffo-
 cated, and all hope of freeing the passage is vanished, so that
 death seems at hand, if respiration be not restored; the opera-
 tion of *bronchotomy*, or opening of the windpipe, must be direct-
 ly 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 emergen-
 cies, we thought proper to mention it, though it should only be
 attempted by surgeons skilled in surgery.*

OF DROWNED PERSONS.

WHEN a person has remained above a quarter of an hour
 under water, there can be no considerable hopes of his re-
 covery. But as several circumstances may happen to have
 continued life, in such an unfortunate situation, beyond the ordi-
 nary 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.

* No man should attempt to put an instrument down his neighbor's throat
 when a surgeon can be found to do it. The best instrument either to raise or
 push down anything in the gullet, is the probang, which is a flexible piece of
 whalebone, with a conical piece of sponge tied to its end, with the point
 downwards. C.

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 the natural warmth*, on 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.

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 cloths 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.

Strong volatile spirit 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 spirit.

To renew the breathing, 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 nostril, 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.

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 endeavors prove ineffectual. Where there are no conveniences for using the warm bath, the body may be covered with warm salt, 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 on hot ashes, covering her with others equally hot, putting a bonnet on 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.

Till the patient shows 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 spirit; 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 tablespoonful of which, diluted with water, may be given every quarter of an hour, till the patient has taken five or six doses. Where this medicine is not at hand, a strong infusion of sage, chamomile 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 remain 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 being 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 on 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 this fact, that many of those unhappy persons, who have lost their lives by falls, blows, and other accidents, might have been saved *by the use of proper means, duly persisted in.*

OF NOXIOUS VAPORS.

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 impregnated. 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, without due ventilation. 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 vapor 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 vapor 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 vapors arising from them produce the same effects as those mentioned above. For this reason, no person ought to venture into a well, pit, cellar, tomb, or any place that is damp, and has been long shut up, till the air has been sufficiently purified. 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 ventilation.

The offensive smell of lamps and of candles, especially when their flames are extinguished, operates like other vapors, though with less violence, and less suddenly. There have, however, been instances of people's being killed by the fumes of lamps which had been extinguished in a close chamber; and persons of weak, delicate lungs, 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 elyster, syrup of buckthorn and tincture of senna, of each two ounces; or, in their stead, half an ounce of turpentine dissolved in the yelk of an egg. Should these things not be at hand, two or three large spoonfuls of common salt may be put into the elyster. 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 ease 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 seacoal, but was recovered by being plunged into cold water, and afterwards laid in a warm bed.

The practice of plunging persons suffocated by noxious vapors into 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 neighboring lake.

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 rotteness, 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 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.

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 spirit, 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.

Headaches 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 them moistened with very cold water for half an hour, or till the stupor is diminished. This they term *drawing the fire out of the head*.

 CHAP. LIV.

 OF FAINTING FITS, AND OTHER CASES, WHICH
 REQUIRE IMMEDIATE ASSISTANCE.

STRONG and healthy persons, who abound with blood, are often seized with sudden fainting fits, after violent exercise, drinking freely of warm or strong liquors, exposure to great heat, intense application to study, or the like.

In such cases, the patient should be made to smell to some vinegar. His temples, forehead, and wrists, ought, at the same time, to be bathed with vinegar mixed with an equal quantity of warm water; and two or three spoonfuls of vinegar, with four or five times as much water, may, if he can swallow, be poured into his mouth.

If the fainting proves obstinate, or degenerates into a *syncope*, that is, an abolition of feeling and understanding, the patient must be bled. After the bleeding, a clyster will be proper, and then he should be kept easy and quiet, only giving him, every

half hour, a cup or two of an infusion of any mild vegetable, with the addition of a little sugar and vinegar.

When swoonings, which arise from this cause, occur frequently in the same person, he should, in order to escape them, confine himself to a light diet, consisting chiefly of bread, fruits, and other vegetables. His drink ought to be water or small beer, and he should sleep but moderately, and take much exercise.

But fainting fits proceed much oftener from a defect than an excess of blood. Hence they are very ready to happen after great evacuations of any kind, obstinate watching, want of appetite, or such like. In these, an almost directly opposite course to that mentioned above must be pursued.

The patient should be laid in bed, with his head low, and, being covered, should have his legs, thighs, arms, and his whole body, rubbed strongly with hot flannels. Hungary water, volatile salts, or strong smelling herbs, as rue, mint, or rosemary, may be held to his nose. His mouth may be wet with a little rum or brandy; and, if he can swallow, some hot wine, mixed with sugar and cinnamon, which is an excellent cordial, may be poured into his mouth. A compress of flannel dipped in hot wine or brandy must be applied to the pit of his stomach, and warm bricks, or bottles filled with hot water, laid to his feet.

As soon as the patient is recovered a little, he should take some strong soup or broth, or a little bread or biscuit soaked in hot spiced wine. To prevent the return of the fits, he ought to take often, but in small quantities, some light, yet strengthening nourishment, as panada made with soup instead of water, new laid eggs lightly poached, chocolate, light roast meats, jellies, and such like.

Those fainting fits, which are the effect of bleeding, or of the violent operation of purges, belong to this class. Such as happen after artificial bleeding are seldom dangerous, generally terminating as soon as the patient is laid on the bed; indeed, persons subject to this kind should always be bled lying, in order to prevent it. Should the fainting, however, continue longer than usual, volatile spirit may be held to the nose, and rubbed on the temples, &c.

When fainting is the effect of too strong or acrid purges, or vomits, the patient must be treated in all respects as if he had taken poison. He should be made to drink plentifully of milk, warm water, and oil, barley water, or such like; emollient clysters will likewise be proper, and the patient's strength should afterwards be recruited, by giving him generous cordials, and anodyne medicine.

Faintings are often occasioned by indigestion. This may either proceed from the quantity or quality of the food. When the former of these is the cause, the cure will be best performed by vomiting, which may be promoted by causing the patient to drink a weak infusion of chamomile flowers, *carduus benedictus*, or the like. When the disorder proceeds from the nature of the food, the patient, as in the case of weakness, must be revived by strong smells, &c.; after which, he should be made to swallow a large quantity of light, warm fluid, which may serve to drown, as it were, the offending matter, to soften its acrimony, and either to effect a discharge of it by vomiting, or force it down into the intestines.

Even disagreeable smells will sometimes occasion swoonings, especially in people of weak nerves. When this happens, the patient should be carried into the open air, have stimulating things held to his nose, and those substances which are disagreeable to him ought immediately to be removed. But we have already taken notice of swoonings, which arise from nervous disorders, and shall therefore say no more on this head.

Fainting fits often happen in the progress of diseases. In the beginning of putrid diseases, they generally denote an oppression at the stomach, or a mass of corrupted humors, and they cease after evacuations either by vomit or stool. When they occur at the beginning of malignant fevers, they indicate great danger. In each of these cases, vinegar, used both externally and internally, is the best remedy during the paroxysm, and plenty of lemon juice and water after it. Swoonings which happen in diseases accompanied with great evacuations, must be treated like those which are owing to weakness, and the evacuations ought to be restrained. When they happen towards the end of a violent fit of an intermitting fever, or at that of each exacerbation of a continual fever, the patient must be supported by small draughts of wine and water.

Delicate and hysteric women are very liable to swooning or fainting fits after delivery. These might be often prevented by generous cordials, and the admission of fresh air. When they are occasioned by excessive flooding, it ought by all means to be restrained. They are generally the effect of mere weakness or exhaustion. Dr. Engleman relates the case of a woman "in childbed, who, after being happily delivered, suddenly fainted, and lay upwards of a quarter of an hour apparently dead. A physician was sent for. Her own maid, in the meanwhile, being out of patience at his delay, attempted to assist her herself, and, extending herself on her mistress, applied her mouth to hers, blew in as much breath as she possibly could, and in a very short time the exhausted woman

“awaked as out of a profound sleep; when, proper things being given her, she soon recovered.

“The maid, being asked how she came to think of this expedient, said, she had seen it practised at Altenburgh, by midwives, on children with the happiest effect.”

We mention this case chiefly that other persons 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, without all doubt, by proper care, be 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 endeavoring 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 so far as to admit a stream of fresh air.

Persons subject to frequent swoonings 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 humors 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 evidently arises from a fulness of the habit, and is accompanied with a total abolition of feeling and understanding, that bleeding is adviseable. The use of the lancet might otherwise have the most deadly effect. Many persons, even of robust constitutions, are very apt to faint on 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 favorable 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 on 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 anything 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 chamomile flowers, or lukewarm 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 this 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 spirit, 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 neighbor, a few days before, who had been advised to drink a bottle of spirit to cure him of an ague, expired under very similar circumstances.*

OF SUFFOCATION AND STRANGLING.

THESE may sometimes proceed from an obstruction of the lungs, produced by viscid, clammy humors, or a spasmodic

* 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.

affection of the nerves of this 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 elyster, 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 affections 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 teaspoonful of the paregoric elixir may occasionally be added. 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 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 of Paris, as it was attended with success, and contains almost everything 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 mucus, the mouth gaping; in short it was almost cold. Whilst some linen cloths 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

* These accidents are not always the effects of carelessness. I have known an infant overlaid by its mother being seized in the night with an hysterical fit. This ought to serve as a caution against employing hysterical 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 *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 caught 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 twentynine 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 spirit 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 some time 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 CONVULSIONS.

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 seeming to expire 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 on 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 neighboring gentlewoman, who used to admire the child, hearing of its sudden death, hastened to the house, and on 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; on 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 endeavors, would have remained so. There are, however, many other things, which might be done in ease the above should not succeed; as rubbing the body with strong spirit, covering it with warm ashes or salt, blowing air into the lungs,

throwing up warm, stimulating clysters into the intestines, and such like.

When children are dead born, or seem to 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 endeavors of persons totally ignorant of medicine, in assisting those whose life is suddenly endangered by any 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 endeavors 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 one hundred and fifty 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 endeavors 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 seem to 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 vapors arising from fermenting liquors; the steams of burning charcoal; sulphureous mineral acids; arsenical effluvia.

The various accidents of drowning, strangling, and apparent deaths, by blows, falls, hunger, cold, &c. likewise furnish opportunities of trying such endeavors. 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 expense, 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, 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 endeavors 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 labor.

It were greatly to be wished, that an institution, similar to that of Amsterdam, was established, on a more extensive plan, in Great Britain; and that reward was allowed to every one who should be instrumental in restoring to life a person seemingly dead.* Men will do much for fame, but still more for money. Should no profit, however, be annexed to these benevolent offices, the heartfelt pleasure which a good man must enjoy, on reflecting that he has been the happy instrument of saving one of his fellow creatures from an untimely grave, is itself a sufficient reward.

CHAP. LV.

OF COLD BATHING, AND DRINKING THE MINERAL WATERS.

IN a note subjoined to the "Cautions," given in former editions of this work, concerning the use of the cold bath and of

* The author is happy to observe, that, since the first publication of this work, several societies have been instituted in Britain with the same benevolent intention as that of Amsterdam, and that their endeavors have proved no less successful. He is likewise happy to observe, that premiums have been awarded to those who have been active in their endeavors to restore to life persons who had been drowned, or suddenly deprived of life by any accident. How much is this superior to the superstitious institution, which allows any man a premium who brings a dead person out of the water, so that he may receive Christian burial; but allows nothing to the person who brings him out alive, or who recovers him after he has been to all appearance dead!

mineral waters, I pledged myself to treat the subject more at length on a future occasion ; and I now mean to fulfil this promise. The discussion will be naturally divided into two parts. In the first, I shall endeavor to illustrate the extensive utility of the cold bath, in preserving as well as restoring health ; and shall point out the cases where it may be hurtful. I propose, in the second part, to give a particular account of the qualities of the most celebrated mineral waters in our own island, and on the continent ;—to specify the diseases wherein they are respectively indicated ;—and to lay down the best practical rules for employing them with safety and benefit. I need not enlarge on the importance of such details. Everybody knows, that the best things are liable to the greatest abuse ; and as nature does not afford more active or more powerful medicines than those in question, any error in the application may be, and often is, attended with considerable danger.

OF COLD BATHING ; WITH REMARKS ON THE CASES IN WHICH THE WARM BATH IS MORE ADVISEABLE.

IMMERSION in cold water is a custom which lays claim to the most remote antiquity. Indeed, it must have been coëval with man himself. The necessity of water for the purpose of cleanliness, and the pleasure arising from its application to the body in hot climates, 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 inquiry 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 the baths, and preventing the numerous evils which arose from an imprudent and promiscuous use of these 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 the 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 further 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, vigor, 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, one or two plunges or dips of the whole body will be sufficient, though active swimmers may continue their favorite amusement for five or six minutes without injury. Any longer stay might prove dangerous, by not only occasioning an excessive flux of humors towards the head, but chilling the blood, 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 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 or forenoon 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 reabsorbed; it affords fresh supplies of vigor and alacrity, to enter on 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 people 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 this 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, on 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, so 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

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, as yet discovered, of 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 on 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 case. 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. In the external use of some mineral waters, the same precaution is necessary.

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 process of granulation. It often disperses tumors 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 commonly 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 vigor both of body and mind. It is always most adviseable 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 on 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 surprized 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.

When cold bathing occasions chillness, loss of appetite, listlessness, pain of the breast or bowels, a prostration of strength, or violent headache, 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 reaction 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. Everybody'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 recommended 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 reaction. The cold bath is often very necessary to complete a cure, though not always advisable to begin with. This requires particuar illustration.

In hysteric and hypochondriacal 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 degrees.

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 headache, 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 for ever the remains of animal heat; or, should nature, by extraordinary efforts, be able to resist the shock, it will 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 action 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 hemorrhages, 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 anything more likely to prevent the return of this complaint than cold bathing and 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 on 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 either in 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 these 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 adviseable 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 further details, and show how much more salutary the warm bath is than the cold in diseases of the liver and kidneys, and in numberless other cases of internal weakness, irritation, or 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.

OF MINERAL WATERS.*

THE chemical analysis of mineral waters is of considerable importance, as determining the principles in which their active powers reside, and thus enabling the physician to employ them with more advantage and discrimination. Mineral waters include all such fluids as are naturally impregnated with heterogeneous matter, which they have dissolved within the bowels of the earth, whether sulphureous, metallic, or saline; and, as many of these are successfully employed in medicine, they have received the appellation of medicinal waters. They derive their peculiarity of character in general either from containing carbonic acid, or soda not neutralized, sulphureted hydrogen, purging salts, earthy salts, or iron; or from their temperature exceeding in a greater or less degree that of the atmosphere. These waters have also a specification depending on the foreign substances which they contain. Waters impregnated with free carbonic acid gas sparkle when drawn from the spring, or poured into a glass; they have a taste more or less pungent and acidulous, but soon become vapid from exposure to the air. Along with the carbonic acid, there generally are present portions of saline, earthy or metallic matter, chiefly carbonates of lime, magnesia and iron. The quantity of carbonic acid contained in the mineral waters is very various. When highly impregnated with *carbonic acid gas*, they are grateful from their pungency, sit light on the stomach, and, in a large dose, produce even sensibly a degree of exhilaration; they increase the appetite, and generally have a diuretic effect. They prove useful in dyspeptic affections, from the grateful and moderate stimulus exerted by the carbonic acid on the stomach, aided by the diluent operation of the water; and hence the advantage derived from them in the numerous chronic affections connected with impaired power of the digestive organs. They generally also contain some saline substances, which communicate additional powers; and the operation of these is usually promoted, or at least they are rendered more grateful, by the carbonic acid. Those which contain carbonate of soda, as Seltzer water, prove more powerfully diuretic, and are employed with advantage as palliatives in urinary calculus, and in the painful discharge of urine from other affections of the urinary organs. Those waters impreg-

* Instead of the usual article on this subject in the Domestic Medicine, we have, with permission, adopted one from THACHER'S DISPENSATORY, 4th edition, as better suited to our country. C.

nated with iron are more particularly employed in those diseases in which that metal is employed.

The *sulphureous mineral waters* owe their distinguishing character to an impregnation of sulphureted hydrogen; and they are at once recognized by their peculiar fetid smell. They almost uniformly contain saline substances, which modify their powers. From the action of the sulphureted hydrogen, they are employed more particularly in cutaneous affections; and from the combined action of this and the saline matter which generally has a purgative effect, they are further used in diseases of the digestive organs, dyspepsia, hypochondriasis, torpor of the intestines, and visceral obstructions; and also in scrofulous affections. They are also applied locally in cutaneous eruptions, and the warm sulphureous baths have been in particular celebrated for their efficacy under this form of application.

The *saline mineral waters* comprize those in which, without any large proportion of aërial matter, various saline compounds, generally neutral, exist. The salts most usually present are sulphates, muriates, and carbonates; and the bases with which the acids forming these are combined, are soda, magnesia, and lime. These waters are usually aperient, the substances which they hold dissolved being either, so far as can be determined, inert, such as the sulphate and carbonate of lime; or being cathartic, as the greater number of the other compound salts. It has always been remarked too, with regard to them, that their cathartic power is greater than could be supposed from the extent of their saline impregnation as determined by analysis; a proof of the influence of dilution in the operation of mineral waters. They are usually employed in diseases, where it is of advantage to stimulate the digestive system, the intestinal canal, and the secreting organs connected with it, or where advantage is derived from moderate and continued evacuations. Hence their celebrity in the treatment of some forms of dyspepsia and hypochondriasis, chlorosis, chronic hepatitis, jaundice, and in scrofula.

When these waters are impregnated with carbonic acid, which they frequently are, they become more grateful and sit easier on the stomach. When they have an impregnation of iron, they acquire tonic powers, and more efficacy as remedies in amenorrhœa, and the other chronic diseases in which this metal is employed.

Sea water, in strict chemical arrangement, must be regarded as belonging to the class of saline mineral waters, as it holds dissolved merely various neutral salts, chiefly muriate of soda and of magnesia, and sulphate of soda and magnesia, with a

little sulphate of lime. It much exceeds, however, in the extent of impregnation, any common mineral water. Its medicinal powers are similar to those of the saline mineral waters; from the extent of its saline impregnation, it is more active as a cathartic, and this renders it more stimulating than fresh water as a bath.

Chalybeate mineral waters owe their characteristic properties chemically and medicinally to an impregnation of iron. The oxide of iron is almost uniformly held dissolved by carbonic acid, the acid being usually in excess; in a few mineral waters, sulphate of iron is present; but these are rare, and are in general too active to be well adapted to medicinal use. Chalybeate waters have a peculiar styptic taste; they are transparent when taken from the spring, but when exposed for some time to the air, a pellicle forms on the surface, and a quantity, generally minute, of ochrey sediment subsides, the water at the same time losing its taste. This change is accelerated by heat.

Chalybeate mineral waters are remedies of considerable activity and power. They act as tonics, increasing the strength of the system, raising the force of the circulation, giving tone to the digestive organs, augmenting muscular vigor, and promoting the excretions. They are of course employed in those diseases in which iron is principally used, emenorrhœa, chlorosis, some states of menorrhagia, leucorrhœa, dyspepsia, scrofula, and various forms of chronic debility. And as iron always succeeds best when given in small doses, and in a state of considerable dilution, the chalybeate waters afford the best form under which it can be prescribed, that which is at once attended with least irritation, and from which the greatest benefit is obtained. The powers of these waters, too, are often aided by the presence of other ingredients. The impregnation of carbonic acid, when it is present in excess, gives them a grateful stimulant quality, which is exerted on the stomach; and saline substances communicate to them an aperient power.

It would be foreign to the object of this sketch to attempt a particular history, connected with the various celebrated mineral springs, so much resorted to on the European continent, but some account of the principles and medicinal properties of those of our own country cannot fail of being acceptable, since the most serious consequences frequently result from an indiscriminate employment of these waters.

The Ballston mineral waters are those most celebrated in the United States; and the following is the result of their analysis, by an eminent French chemist:

1. Carbonic acid, three times its volume.	
2. Muriate of soda,	31 grains.
3. Supersaturated carbonate of chalk,	22 grains.
4. Muriate of magnesia,	12½ grains.
5. Muriate of chalk,	5 grains.
6. Carbonate of iron,	4 grains.

To the preceding analysis, Dr. Hosack, of New York, has subjoined some valuable "observations on the use of the Ballston mineral waters in various diseases."

"The Ballston waters have been long known to yield a great quantity of *fixed air*, and to hold in solution a large portion of *iron*. By the analysis referred to, it appears that they yield a much larger proportion of fixed air, and that they contain a greater quantity of iron, than any other mineral water that has hitherto been discovered, not excepting that of Vichy, one of the strongest chalybeate waters in Europe. But it appears, that they also contain another substance, the *muriate of lime*, which, with the other ingredients with which it is associated, promises to be of great and extensive utility.

"We are accordingly from this analysis induced to ascribe more virtues to the Ballston waters than physicians have generally believed them to possess. Although much is due to exercise, change of air, and an agreeable occupation of the mind, which the amusements of watering places usually afford, I have no doubt, from the sensible effects produced upon the system by the waters themselves, that they also are productive of great good in a variety of diseases, some of which I shall now briefly enumerate.

"1st. From the effects of the Ballston waters, as a strong *chalybeate*, they may be employed with advantage in most diseases of debility, whether directly or indirectly such. But in those complaints which are attended with an increased excitement of the whole system, or with local inflammation, they are manifestly prejudicial. These principles are deducible from the qualities of the waters alone; but they are also confirmed by the experience and observation of physicians who have attended to their operation.

"Accordingly, in *intermittent fever*, *dropsy*, *dyspepsia*, *hypochondriasis*, and *hysteria*, connected with, or proceeding from debility of the digestive organs; in *paralysis*, *chronic rheumatism*, *gout* in its chronic state, *chlorosis*, *fluor albus*; in *suppression* of the *menses* when arising from weakness, in worms, and in other diseases of debility, whether of the intestinal canal, or of the whole system, the Ballston waters have been long and justly celebrated. On the other hand, in a plethoric state of the system, as in *pregnancy*, in *consumption of the lungs*, *inflam-*

mation of the liver, acute rheumatism, dysentery, and other diseases of an *inflammatory* nature, in which they are oftentimes resorted to, they invariably do injury. We may, perhaps, except from this remark, a *species of consumption*, which arises in females about the time of puberty, in which, from want of energy in the system, menstruation does not take place at the period in which it usually appears; dyspepsia ensues, followed with general irritation of the nervous system, pain in the breast, cough, sometimes hemorrhage from the lungs, and ultimately terminating in confirmed consumption. These consequences have frequently been prevented by a course of iron, and vegetable tonics, aided by generous diet, and exercise, especially riding on horseback. Under similar circumstances, I have no doubt, that the Ballston waters may be serviceable in this species of phthisis in its incipient state; but they should never be employed in diseases of this nature, without the advice of a physician.

“2. From the *saline impregnation* of these waters, and their operation upon the urinary organs as well as by perspiration, they are indicated in diseases of the *kidneys* and *bladder*, in *gout*, *chronic rheumatism*, and *eruptions* upon the skin, all which diseases are most frequently produced by, or connected with a morbid condition of the fluids, and an impaired state of the secretions. In these complaints, I have repeatedly prescribed these waters with the best effects.

“But according to the foregoing analysis, they contain an ingredient of great value, besides those already enumerated; I mean the *muriate of lime*. It appears upon the authority of Dr. Beddoes, Dr. R. Pearson, Dr. Wood, and Dr. Schraud of Vienna, that this substance has lately been discovered to be a remedy for *scrofula*, which hitherto has been the opprobrium of our profession. It is true, cases have been recorded by Russell and others, of the cure of this disorder by the use of sea water. But as it has been ascertained by chemists, that the muriate of lime enters into the composition of sea water, it is very possible that much of the efficacy of the latter, in this disease, may be derived from the muriate of lime, which it has been found to contain.

“But as *scrofula* is usually attended with a general debility of the system, as well as a morbid condition of the fluids, the Ballston waters will probably be found peculiarly serviceable, inasmuch as they possess the means of invigorating the system, at the same time that they contain the antidote to the peculiar virus of this disease.

“But to obtain the benefits of the Ballston waters in any of the diseases which have been noticed, it is necessary, that, in

the use of them, as it regards the time of taking them, the quantity taken, the stage of the disease, and other circumstances which must govern their exhibition, the directions of the physician are indispensably necessary. As well might the patient make use of any other article of the *materia medica* without medical advice, as drink these waters in the manner in which they are usually taken. It is but a short time since a very valuable life was destroyed by the imprudent use of them during a state of pregnancy. A few days ago I was consulted by two gentlemen, who had left the springs much worse than they had gone to them. The one labored under dyspepsia, attended with habitual costiveness. Neglecting to relieve his bowels, he commenced the use of the waters; the consequences were, an aggravation of his disease, followed with fever, acute pain in the head, and other symptoms of general excitement. The other person referred to, had come from Virginia, on account of an obstinate chronic diarrhœa, attended with great debility, and general emaciation. Without advice, he immediately began to drink the waters to the quantity of several quarts daily. The consequences may be readily imagined,—an increase of his disease, and a degree of debility from which he with difficulty recovered.”

OF THE WATERS OF STAFFORD SPRING IN THE STATE OF CONNECTICUT.

The waters of Stafford spring have been subjected to a partial analysis by the late Dr. Samuel Willard.

Though far from being complete, for the want of proper agents or tests, the results of his experiments favor the conclusion, 1st. That “iron is the prevailing ingredient in the water,—that it is held in solution by the carbonic acid,—that, when the water is exposed to the action of the atmospheric air, or is acted on by heat, the acid is extricated, and the iron precipitated,—the purple color struck by the vegetable astringents, and by distilled spirits,—the precipitate produced by the caustic fixed alkali, and the blue tinge communicated to the water, by calcareous and alkaline prussiates, all indicate the presence of iron.

“2d. That the water is also impregnated with the sulphuretted hydrogenous gas, its sulphureous smell, its possessing the property of blackening silver, and its receiving a green tinge from the admixture of vegetable purple juices, may be considered as proofs.

“3d. That the water contains aluminous and magnesian earth, its effects on soap, its effervescing with the sulphuric acid, when deposited as a sediment, and the new combination which takes place on the admixture of this acid, induce a belief of this fact.”

A SHORT ACCOUNT OF THE ARTIFICIAL MINERAL WATERS IN THE UNITED STATES.

Taken from Conversations on Chemistry.

The extensive utility of many of the natural mineral waters has been long established by the experience of mankind, and sanctioned by the opinions of the first medical practitioners of every enlightened country.

The accurate analysis of all the most important and celebrated mineral waters has been accomplished by men competent to the task; and we are thus informed, not only concerning the *nature*, but the *proportion* of the ingredients which they contain. They are either *solid substances*, such as water can dissolve, or *gases*, capable of being combined with this fluid. To both of these the mineral waters owe their medicinal powers, and to the latter alone, and *chiefly to the carbonic acid*, their peculiar activity, briskness, and pungency.

In the manufacture of artificial mineral waters, the original water is perfectly imitated, by the addition of all the ingredients in the proper proportions; and the gas, by a peculiar and very powerful apparatus, is afterwards forced in, till the waters acquire a degree of briskness and activity far surpassing anything which they ever exhibit in nature.

The impression, entertained by some, that a perfect imitation of the native mineral waters is impossible, is therefore equally contrary to the decisions of good sense, as it is repugnant to experience; for in London, in Paris, and in many other great towns, artificial mineral waters are thus fabricated; and used to great extent.

In the artificial waters, we always have it in our power to leave out noxious, or useless ingredients; to substitute others, and to vary the proportions at pleasure. Every species of mineral waters whatever can be prepared by art; but the principal ones that have been attempted in this country, are the Ballston, Soda, and the Seltzer waters.

BALLSTON WATER.

The Ballston water is well known in the United States as a gentle cathartic; an active diuretic; a remedy against gravelly complaints; a tonic to the stomach, and generally to the system; not to mention its efficacy against rheumatic and cutaneous complaints, when applied externally, as well as internally. It remains to be added only, that the artificial Ballston water is found by experience to produce the effects of the natural water; it is, however, more powerful, and therefore an equal quantity produces more marked effects.

SODA WATER.

The soda is not an exact imitation of any natural water, but has been directed by medical men as a remedy in a number of common and troublesome complaints. It is ordered in the pharmacopœias and dispensatories, and their prescriptions should be followed in this manufacture. It is a complete remedy against sourness of the stomach, commonly called heart-burn; and in most cases of indigestion and weakness of the stomach, it is very useful; gradually restoring the appetite, and with it the tone of the organ. It is a preventive of many of the diseases of the stomach and bowels, which proceed from acidity; and for the same reason it often removes or prevents the sick headache. As a palliative, and even a remedy, in some cases of urinary calculi and gravelly complaints, it is preferable to the Ballston water. It may prevent, arrest, retard, or remove the complaint, according to circumstances.

The soda water is also a very refreshing, and, to most persons, a very grateful drink, especially after heat and fatigue; and may be made a complete substitute for the beverages of which ardent spirits form a part. With wine and sugar it is very grateful.

SELTZER WATER.

The Seltzer water has long been known, and is one of the most famous of the natural mineral waters of Europe. On account of its agreeable taste and exhilarating effects, it is largely used at table, and as a beverage at all hours. It is a diuretic, and

possesses considerable efficacy in nephritic and urinary complaints. It is very useful against bilious and dyspeptic affections, and in many cases of cutaneous eruptions. It possesses a peculiar power of allaying feverish irritation, and has done much service in slow hectic fevers. It mixes well with milk, and is thus used with advantage by hectic patients. It is used also with sugar and wine.

The manufacture of mineral waters upon correct chemical principles, was undertaken in New Haven, Connecticut, about three years ago; and, during the last summer, a public establishment for this purpose was opened in the same town, under the direction of Professor Silliman. An establishment of the same kind, and under the same direction, was effected in New York, in April of this year, (1809,) by Noyes, Darling, and Co. Fountains of Ballston, Soda, and Seltzer waters were opened in the bar of the Tontine Coffee House. The cisterns are placed in the cellar, and the waters are conveyed into the bar in block tin tubes, which pass up into mahogany pillars, crowned with gilt urns, lettered with the names of the respective waters. The pillars, with their urns, stand a foot apart, and the middle one is raised above the others; silver stop cocks inserted into the sides of the pillars, give the whole much neatness and richness of appearance.

The proprietors of this establishment intend, as we understand, to open fountains at the City Hotel, in the month of May, in a spacious room, fitted up and ornamented in a handsome style, and adapted to the accommodation of ladies as well as gentlemen.

The Ballston and Seltzer waters are prepared according to an accurate analysis; and in order to give the soda water its proper efficacy, it is made with the full proportion of soda directed by the dispensatories. The waters are bottled for exportation, in any quantity demanded.

Soda water has been made in New York by Mr. Usher, for a year or more, and has had a good reputation and an extensive sale. It has been sold from a fountain, and in stone bottles. We understand that he is about to extend his establishment. There have been, for some time, manufactories of mineral waters in the city of Philadelphia; and we are informed that these waters have been extensively used.

To the preceding statement, it remains to be added, that a public establishment of a similar nature has been introduced into the town of Boston, by Mr. John P. Whitwell. The soda and other waters, which he manufactures have acquired considerable reputation, and proved extremely salutary and

useful. From the great attention and exertions of the proprietor, very satisfactory and beneficial effects have been derived, and the utility of his undertaking is becoming more and more extensive and important.

I extract the following from the *Emporium of Arts, &c.* by Thomas Cooper.

“The best method of combining the Seltzer water with a laxative proportion of the purgative salts is the following, which will enable everybody to make, at will, a mineral water, impregnated with cathartic qualities in any proportion that the palate will bear, or the bowels will require, combined with the lively, sparkling qualities of the Seltzer water. Take of super-carbonate of soda, or even the common carbonate, twenty grains, of the common carbonate of magnesia as much; put them in a strong black quart bottle; fill it nearly, but not quite full of water; having previously ready a cork that will fit it. Pour in the quantity of strong vitriolic acid, that you know from previous experiment will barely neutralize that quantity of saline matter. Cork the bottle, and tie down the cork instantly. The carbonic acid gas will thus be combined with a solution of Glauber’s and Epsom salts, which must be kept in a cool place. In the same manner the dose may be altered or diminished, or sulphate of iron, in the proportion of three or four grains, may be added, if the symptoms of the patient require it, and a mineral water produced more efficacious than any that nature presents to us. As to the aerated waters generally, I am of opinion, that every family should have an apparatus of the kind, in order to make them at any time, for the purpose of medicine and salutary beverage. I found them in a recent complaint of more service than any other preparation. Owing to extreme debility, no medicine or food would stay on my stomach until I drank the Seltzer and soda waters; and I am of opinion, that by their use, sickness may be avoided, and, of course, health preserved.”

JAMES CUTBUSH.

CHAP. LVI.

OBSERVATIONS CONCERNING THE DIET 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 which 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 anywhere 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 everything 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 riches depend on the cheapness of labor.

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 be 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 experiments 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.

The late distress of the poor has called forth many publications intended for their relief. Most of them, however, were adapted only for the particular occasion, and not calculated to

prevent the return of like evils. The following observations, it is hoped, will have a more permanent effect. They are intended to recommend a plan of living, which will render the people less dependent on bread and animal food for their subsistence, and consequently not so liable to suffer from a scarcity or dearth of either of these articles in future.

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 the *Phthisis Pulmonalis* 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 dash 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 this 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.

‘Cookery, as it administers to luxury, is certainly a useless and pernicious art ; but so far as it enables us to obtain a palatable and wholesome diet from simple and cheap materials, it is doubtless a valuable art, and worth, in this respect, far more attention than it has ever yet received. From neglect of this sort of cookery, many things are thrown away, even by the poor, from which a delightful repast might be made, and this is one source of their poverty and suffering ; and from ignorance of this art, many a good vegetable and piece of meat are spoiled in the hands of the cook.’

C.

 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 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 this passage in such a state, as to render them fit to be acted on 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, thrived 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 ryemeal, 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 laborer 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 ryemeal, 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 laboring 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 laboring 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 laborer 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 this 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 with 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 this 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 vapors, 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.

OF 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 laborers are much fed on this 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 this 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 favorite 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 this 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 heartburn; 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 heartburn.

Persons who are fed on oatmeal bread, or hasty pudding, are not more subject to diseases of the skin, than those who live on wheatmeal. 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 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 buttermilk 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 neighborhood, 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, endeavored to represent oats as proper food for horses only. I wish the horses in England devoured a smaller quantity of this 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 a bushel; that, when made into flour, it would cost only one penny farthing a 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 Briton 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 buckwheat: 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 favorite of the great Czar Peter, that he is said seldom to have supped on anything else.

OF 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, this 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 this 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 humors 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 sponge. 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 headache, 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 potatoe, and the like, butter makes a very proper addition; but eating it with 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 on 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 anything baked with butter.

Everything that proves very injurious to health, ought, as far as possible, to be prohibited, by laying a high duty on 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.

OF 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 to both in taste and flavor.

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 flavor. 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 about 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 Holvoet-Sluys. There is a light, sandy soil in Holland very favorable to the culture of this 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 color 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 anything into bread, which requires only the aid of fire to make it such? Nobody thinks of making dough of the bread fruit; but the potato 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 potato 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 everything 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 endeavoring 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 thirtyone 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 a 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 sixteen and a half 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 his fires, and a variety of other things,) and during the summer, after their day's labor 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 laborers 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 laborers 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 potato, 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 potato, 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 surprized, on removing them many years after, to find the potato 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 this 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 sallad.

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 flavor. 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 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 favorite in Egypt four thousand years ago, and Dr. Hasselquest 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 potherbs; but as the root is the part chiefly used, the consideration of it comes under the present head of discussion. Indeed, it is as 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 potherb 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 favorite dish. In my opinion, the leek is not so generally used anywhere as it deserves to be. No ingredient goes into soup that is more wholesome, or that gives it a better flavor, 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 potherb 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.

OF 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 favorite in this country. Here the people are fond of what they call solids; yet these 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, this quantity of animal food, when

stewed down with vegetables and 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.

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 potherbs. Cabbage is a favorite 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 this is the case, there is no plant more productive. This the Germans know well, and make it into *sour crout*, one of the best antidotes against the scurvy with which we are acquainted.

This kind of diet not only saves bread but drink. The laborer 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 laborer, 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 on ; 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 anywhere 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, till she is eaten up with vapors 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 inhabi-

tants 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 Briton 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 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.*

* The celebrated Dr. Hufeland, 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 too 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 preventive 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 headaches, colics, and different kinds of cramp in the stomach, warm soup is of excellent service. L

CONCLUSION.

THOUGH the place of bread may be occasionally supplied by farinaeous 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 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 farinaeous food, hies him to the field, where he spends the day in useful labor, 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 the increase of her trade, the flourishing of her manufactures, or the extension of her territory.

It is matter of real regret and wonder, that Britain, at a time when agriculture is cultivated as a science, should not be able

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.

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. Till 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 labor.

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. This 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.”

APPENDIX.

IGNORANCE and superstition have attributed extraordinary medical virtues to almost every production of nature. That such virtues were often imaginary, time and experience have sufficiently shown. Physicians, however, from a veneration for antiquity, still retain in their lists of medicines many things, which owe their reputation entirely to the superstition and credulity of our ancestors.

The instruments of medicine will always be multiplied, in proportion to men's ignorance of the nature and cause of diseases; when these are sufficiently understood, the method of cure will be simple and obvious.

Ignorance of the real nature and permanent properties of those substances employed in the cure of diseases, is another reason why they have been so greatly multiplied. Physicians thought they could effect by a number of ingredients, what could not be done by any one of them. Hence arose those amazing farragos, which have so long disgraced the medical art, and which were esteemed powerful in proportion to the number of simples that entered their composition.

The great variety of forms into which almost every article of medicine has been manufactured, affords another proof of the imperfection of the medical art. A drug, which is perhaps most efficacious in the simplest form in which it can be administered, has been nevertheless served up in so many different shapes, that one would be induced to think the whole art of physic lay in exhibiting medicine under as many different modes as possible.

Different forms of medicine, no doubt, have their use; but they ought never to be wantonly increased. They are by no means so necessary as is generally imagined. A few grains of powdered rhubarb, jalap, or ipecacuanha, will actually perform all that can be done by the different preparations of these roots, and may also be exhibited in as safe and agreeable a manner. The same observation holds with regard to the Peruvian bark, and many other simples, of which the preparations are very numerous.

Multiplying the ingredients of a medicine, not only renders it more expensive, but also less certain, both in its dose and operation. Nor is this all. The compound, when kept, is apt to spoil, or acquire qualities of a different nature. When a medicine is rendered more safe, efficacious, or agreeable, by the addition of another, they ought, no doubt, to be joined; in all other cases, they are better kept asunder. The combination of medicines embarrasses the physician, and retards the progress of medical knowledge. It is impossible to

ascertain the precise effect of any one medicine, as long as it is combined with others, either of a similar or dissimilar nature.

In the exhibition of medicine, regard should not only be had to simplicity, but likewise to elegance. Patients seldom reap much benefit from things that are highly disagreeable to their senses. To taste or smell like a drug, is become a proverb; and, to say truth, there is too much ground for it. Indeed, no art can take away the disagreeable taste or flavor of some drugs, without entirely destroying their efficacy; it is possible, however, to render many medicines less disgusting, and others even agreeable; an object highly deserving the attention of all who administer medicine.

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 dispensaries. 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 flavor, and often become quite insignificant.

In the preparation of medicines, I have generally followed the most improved dispensaries; but have taken the liberty to differ from

them wherever my own observations, or those of other practical writers, on whose judgment I could depend, suggested an improvement.

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 coloring ingredients are likewise for the most part omitted. They increase the bulk and price of the medicine, without adding anything to its value. It would be well if they were never used at all. Medicines are often adulterated for the sake of a color. 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 verdigris to give it a fine green color, which entirely frustrates the intention of that mild ointment. Those who wish to obtain genuine medicine should pay no regard to their color.

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 dispensaries.

For many of the remarks concerning the preparation, &c. of medicines, I have been obliged to the author of the *New Dispensatory*. The other observations are either such as have occurred to myself in practice, or have been suggested in the course of reading, by authors whose names I am not able distinctly to recollect.

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 on 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.

Dispensatories are usually written in the Latin language. Even authors who write in English generally give their prescriptions in Latin; and some of them show so great an attachment to that language, as first to write their *recipes* in it, and afterwards translate them; while others, to compromise the matter, write the one half in Latin, and the other in English. What peculiar charm a medical prescription when written in Latin may have, I shall not pretend to say; but have ventured to make use of the plainest English I could, and hope my prescriptions will succeed no worse for it.

Many who peruse the DOMESTIC MEDICINE have expressed a wish, that the catalogue of medicines contained in that book should be more extensive, and likewise that the dose of each article should be ascertained, as they are often at a loss to know how to administer even those medicines, the names of which they meet with in almost every medical author. To obviate this objection, and furnish a greater scope to those who may wish to employ more articles than are contained in the Dispensatory formerly annexed to this work, the following List of Simples and Compounds, taken from the most improved Dispensatories, is now inserted.

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 each article. The doses, indeed, refer to adults, but may be adapted to different ages by attending to the above-mentioned rules. 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 the 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.

N. B. The apothecary's weights, and the English wine measures, are used throughout the whole book, the different denominations of which will appear from the following table :

A pound contains	12 ounces.	A gallon contains	8 pints.
An ounce . . .	8 drachms.	A pint . . .	16 ounces.
A drachm . . .	3 scruples.	An ounce . . .	8 drachms.
A scruple . . .	20 grains.		

A spoonful is the measure of half an ounce.

A LIST OF THE MEDICINES COMMONLY USED IN
PRACTICE, WITH THEIR PROPER DOSES.

ACACIA, the expressed juice, from	1 scruple to	1 drachm.
Acid, the acetous	1 scruple	1 drachm.
—, muriatic	10 drops	40 drops.
—, nitrous, diluted	15 drops	40 drops.
—, vitriolic, diluted	15 drops	40 drops.
Agaric, used externally as a styptic.		
Aloes	5 grains	30 grains.
Alum	6 grains	20 grains.
—, burned	3 grains	12 grains.
Amber, prepared	$\frac{1}{2}$ drachm	1 drachm.
Ammoniac, gum	5 grains	30 grains.
—, milk of	$\frac{1}{2}$ ounce	1 ounce.
Angelica, the root powdered	$\frac{1}{2}$ drachm	$1\frac{1}{2}$ drachm.
Anise, the seeds	10 grains	1 drachm.
Antimony, crude	10 grains	1 drachm.
—, calcined	1 scruple	1 drachm.
—, cinnabar of	10 grains	1 scruple.
—, glass of	$\frac{1}{4}$ grain	2 grains.
—, tartarized	$\frac{1}{4}$ grain	4 grains.
Assafetida	6 grains	$\frac{1}{2}$ drachm.
—, milk of	$\frac{1}{2}$ ounce	1 ounce.
Asarum, to provoke sneezing	3 grains	5 grains.
Balsam of capivi	20 drops	60 drops.
— Canadian	—	—
— of Peru	—	—
— of Tolu	—	—
Bark, cascarilla	10 grains	1 drachm.
—, Peruvian, powder of	1 scruple	2 drachms.
Bear's foot, powder of the leaves	10 grains	20 grains.
Benzoin, resin of	4 grains	20 grains.
—, flowers of	10 grains	20 grains.
Bistort, powder of the root	1 scruple	1 drachm.
Blessed thistle	10 grains	1 drachm.
—, expressed juice of	2 drachms	2 ounces.
Bole, Armenian	10 grains	2 drachms.
—, French	—	—
Borax	10 grains	40 grains.
Burdock, powder of the root	10 grains	1 drachm.
Calamine stone, levigated, use external.		
Calomel	}	1 gr. to 3 gr. alterative.
Camphor		3 do. to 12 do. purgative.
Canella alba, powder of	2 grains	$\frac{1}{2}$ drachm.
	1 scruple	2 drachms.

Cantharides	from	$\frac{1}{2}$ grain	to	4 grains.
Cardamoms		5 grains		20 grains.
Caraway seeds		10 grains		40 grains.
Cascarilla bark		10 grains		40 grains.
Cassia, the pulp		2 drachms		1 ounce.
Castor		8 grains		1 drachm.
Caustic, lunar; use extenal.				
Catechu		15 grains		30 grains.
Centaury, the lesser		1 scruple		1 drachm.
Chamomile, in powder		20 grains		1 drachm.
Chalk		20 grains		2 scruples.
Cinnamon		5 grains		1 drachm.
Colocynth		2 grains		10 grains.
Columbo		10 grains		1 drachm.
Confection, aromatic		10 grains		2 scruples.
————, opiate		10 grains		2 scruples.
Conserve of roses		1 drachm		1 ounce.
———— of squills		20 grains		1 drachm.
———— of arum		20 grains		1 drachm.
Contrayerva		10 grains		2 scruples.
Coriander seed		15 grains		1 drachm.
Cowitch, the spiculæ of one pod mixed with honey or molasses.				
Crab's claws, prepared		10 grains		1 drachm.
Cummin seed		1 scruple		1 drachm.
Dandelion, expressed juice of		1 ounce		3 ounces.
Decoction of hartshorn, half a pint repeated as often as is necessary.				
———— of Peruvian bark		1 ounce		4 ounces.
———— of the inner bark of the elm		4 ounces		10 oz. daily.
———— of sarsaparilla		4 ounces		16 oz. daily.
———— compound				
———— of guaicum, 3 drachms to a pint of water.				A pint daily.
Dragon's blood		10 grains		2 scruples.
Earth, fuller's; use external in excoriations.				
Electuary of cassia		1 drachm		1 ounce.
———— of scammony		20 grains		2 drachms.
———— lenitive, or of senna		30 grains		6 drachms.
Elixir of vitriol		15 drops		50 drops.
Elecampane, powder of the root		20 grains		1 drachm.
Ether, vitriolic		30 drops		2 drachms.
Ethiop's mineral		10 grains		30 grains.
Extract of Peruvian bark		10 grains		$\frac{1}{2}$ drachm.
———— cascarilla		10 grains		$\frac{1}{2}$ drachm.
———— chamomile		10 grains		1 drachm.
———— colocynth comp.		5 grains		25 grains.
———— gentian		10 grains		$\frac{1}{2}$ drachm.
———— hemlock		2 grains		10 grains.
———— liquorice		1 drachm		$\frac{1}{2}$ ounce.
———— logwood		10 grains		$\frac{1}{2}$ drachm.
———— black hellebore		3 grains		10 grains.

Extract of jalap	from	5 grains	to	20 grains.
— guaiacum		10 grains		20 grains.
— white poppies		1 grain		5 grains.
— rue		10 grains		20 grains.
— savin		10 grains		30 grains.
— senna		10 grains		30 grains.
— wormwood		10 grains		30 grains.
Fern, powder of the root		$\frac{1}{2}$ drachm		$\frac{1}{2}$ ounce.
Fennel seed		20 grains		1 drachm.
Foxglove, powder of the leaves		$\frac{1}{2}$ grain		3 grains.
or a drachm infused in a pint of boil-	}	1 ounce.		
ing water, of which a dose is				
Should be administered with caution.				
Flowers of chamomile, powder of		10 grains		1 drachm.
— elder.				
— rosemary.				
— damask roses.				
— red ditto.				
Frankincense		10 grains		30 grains.
Fruits. Almonds.				
— Curacoa oranges.				
— Figs dried.				
— French prunes.				
— Tamarinds.				
Galbanum		10 grains		30 grains.
Galls		10 grains		20 grains.
Garlic, cloves of		No. 1.		No. 6.
Gentian		10 grains		40 grains.
Germander		15 grains		1 drachm.
Ginger		5 grains		20 grains.
Ginseng		20 grains		30 grains.
Guaiacum, wood of.				
—, gum resin		10 grains		30 grains.
Gum arabic		15 grains		1 drachm.
— gamboge		2 grains		12 grains.
Hartshorn, prepared		20 grains		1 drachm.
—, spirits of		10 drops		40 drops.
—, caustic, in some mucilagi-	}	5 drops		
nous vehicle				
—, salt of		2 grains		12 grains.
Hellebore, black		5 grains		10 grains.
—, white		1 grain		5 grains.
Hemlock should always be begun with in very small doses, of one				
grain or less, and gradually increased as the constitution will bear.				
See extract of.				
Honey of squills		10 grains		40 grains.
— roses		1 drachm		2 drachms.
Hoffman's anodyne liquor		20 drops		60 drops.

Jalap, powder of	from 10 grains to 40 grains.	
Infusion of gentian, compound	1 ounce	3 ounces.
----- roses	2 ounces	8 ounces.
----- senna	$\frac{1}{2}$ ounce	2 ounces.
Ipecacuanha	10 grains	30 grains.
Iris, florentine	1 scruple	1 drachm.
Iron, rust of	5 grains	20 grains.
---, ammoniated	2 grains	10 grains.
---, tartarized	2 grains	10 grains.
---, salt of	$\frac{1}{2}$ grain	5 grains.
Juniper, powder of the berries	20 grains	1 drachm.
Kermes, mineral	1 grain	3 grains.
Kino, gum	10 grains	30 grains,
Lead, white	} $\frac{1}{2}$ grain	2 grains.
---, sugar of		
Lemon peel.		
Lichen, ash colored, ground	10 grains	40 grains.
----- Icelandic, a strong decoction of	1 ounce	4 ounces.
Lime water	4 ounces	8 ounces.
Lixivium of tartar	15 drops	40 drops.
Linseed, an infusion of one ounce to a quart of water ; may be used at pleasure.		
Liquorice, root of	$\frac{1}{2}$ drachm	1 drachm.
Litharge.		
Madder powder	$\frac{1}{2}$ drachm	1 drachm.
Mace	10 grains	20 grains.
Magnesia	$\frac{1}{2}$ drachm	2 drachms.
----- calcined		
Manna	$\frac{1}{2}$ ounce	2 ounces.
Marsh mallows, root and leaves of	$\frac{1}{2}$ drachm	1 drachm.
Mercury, crude	$\frac{1}{2}$ ounce	4 ounces.
-----, calcined	$\frac{1}{2}$ grain	2 grains.
-----, with chalk	10 grains	50 grains.
-----, corrosive sublimate	$\frac{1}{8}$ grain	$\frac{1}{2}$ grain.
-----, cinnabar of	10 grains	50 grains.
-----, red precipitate of	} use chiefly external.	
-----, white ditto		
-----, yellow emetic, as sternutatory	1 grain	3 grains.
Mezereon, decoct. to a pint of water		2 drachms.
Millipedes	20 grains	2 drachms.
Musk	5 grains	40 grains.
Mustard seed	1 drachm	1 ounce.
Myrrh, gum	10 grains	1 drachm.
Nitre, purified	10 grains	30 grains.
Nutmeg	6 grains	$\frac{1}{2}$ drachm.

Oil of almonds	- - - from	$\frac{1}{2}$ ounce	to 1 ounce.
----- amber, rectified	- - - -	10 drops	30 drops.
----- anniseed	- - - -	1 drop	5 drops.
----- castor	- - - -	2 drachms	1 ounce.
----- cinnamon	- - - -	1 drop	3 drops.
----- juniper	- - - -	2 drops	10 drops.
----- lemon peel	- - - -	2 drops	5 drops.
----- linseed	- - - -	$\frac{1}{2}$ ounce	1 ounce.
----- olibanum	- - - -	5 grains	30 grains.
----- olive	- - - -	$\frac{1}{2}$ ounce	1 ounce.
----- palm	- - - -	use external.	
----- peppermint	- - - -	1 drop	3 drops.
----- turpentine	- - - -	10 drops	30 drops.
Onion, expressed juice of, a powerful diuretic	- - - - }	$\frac{1}{2}$ ounce	2 ounces.
Opium	- - - -	$\frac{1}{2}$ grain	2 grains.
Orange peel.			
Oyster shells, prepared	- - - -	$\frac{1}{2}$ drachm	2 drachms.
Oxymel of colchicum	- - - -	$\frac{1}{2}$ drachm	1 drachm.
----- squills	- - - -	$\frac{1}{2}$ drachm	1 drachm.
Pennyroyal.			
Peppermint.			
Petroleum	- - - -	10 drops	30 drops.
Pills, aloetic	- - - -	10 grains	30 grains.
-----, of the gums	- - - -	10 grains	30 grains.
-----, mercurial	- - - -	10 grains	20 grains.
Pitch, Burgundy.			
Pomegranate, powder of	- - - -	20 grains	1 drachm.
Poppy heads.			
Powder, antimonial	- - - -	3 grains	6 grains.
May be taken according to the directions for James's powder, with which it nearly coincides.			
----- of contrayerva, compound	- - - -	15 grains	30 grains.
----- of chalk, compound	- - - -	20 grains	40 grains.
----- with opium	- - - -	10 grains	40 grains.
Powder of ipecacuanha, compound, or Dover's powder	- - - - }	10 grains	30 grains.
Quassia	- - - -	5 grains	30 grains.
One drachm to a pint of water for an infusion.			
Quince seeds, mucilage of, at pleasure, to obtund acrimony.			
Resin, yellow	- - - -	5 grains	20 grains.
Rhubarb, powder of	- - - -	10 grains	40 grains.
Rue powder	- - - -	20 grains	40 grains.
Sassafras	- - - -	1 scruple	1 drachm.
Savin	- - - -	10 grains	30 grains.
St. John's wort	- - - -	20 grains	1 drachm.
Saffron	- - - -	5 grains	20 grains.
Sal ammoniac	- - - -	10 grains	30 grains.
Salt, Epsom	- - - -	2 drachms	1 ounce.

Salt, Glauber	- - -	from	4 drachms	to 2 ounces.
--- of hartshorn	- - -	-	10 grains	20 grains.
---, Polychrest	- - -	-	20 grains	$\frac{1}{2}$ ounce.
---, Rochelle	- - -	-	2 scruples	1 ounce.
--- of tartar	- - -	-	10 grains	30 grains.
Saunders, red	- - -	-	$\frac{1}{2}$ drachm	1 drachm.
Sarsaparilla, powder of	- - -	-	20 grains	40 grains.
Scammony	- - -	-	5 grains	20 grains.
Seneca	- - -	-	20 grains	40 grains.
Senna	- - -	-	20 grains	40 grains.
Soap	- - -	-	20 grains	$\frac{1}{2}$ ounce.
--- lees	- - -	-	10 drops	30 drops.
Spearmint	- - -	-	10 grains	2 scruples.
Senna	- - -	-	1 scruple	1 drachm.
Scurvy grass, expressed juice	- - -	-	1 ounce	4 ounces.
Snakeroot	- - -	-	20 grains	40 grains.
Sorrel, juice of, depurated	- - -	-	2 ounces	4 ounces.
Spirit of lavender	- - -	-	1 drachm	2 drachms.
----- Mindererus	- - -	-	1 drachm	1 ounce.
----- sweet, of vitriol	- - -	-	15 drops	40 drops.
----- nitre	- - -	-	15 drops	40 drops.
----- sal ammoniac	- - -	-	15 drops	40 drops.
----- compound	- - -	-	-----	-----
----- fetid	- - -	-	-----	-----
Spirits, distilled	- - -	-	1 drachm	$\frac{1}{2}$ ounce.
Spirit of lavender, common	- - -	-	20 drops	1 drachm.
----- wine, rectified	- - -	-	1 drachm	2 drachms.
Steel, filings of	- - -	-	5 grains	1 scruple.
Spermaceti	- - -	-	20 grains	1 drachm.
Sponge, burned	- - -	-	20 grains	1 drachm.
Storax	- - -	-	10 grains	$\frac{1}{2}$ drachm.
Sulphur	- - -	-	20 grains	1 drachm.
-----, precipitated, of antimony	- - -	-	1 grain	4 grains.
Squill, dried powder	- - -	-	1 grain	3 grains.
-----, fresh	- - -	-	5 grains	15 grains.
Syrup of poppies	- - -	-	$\frac{1}{2}$ drachm	$\frac{1}{2}$ ounce.
----- buckthorn	- - -	-	1 drachm	2 drachms.
----- ginger	- - -	-	1 drachm	$\frac{1}{2}$ ounce.
Syrups in general	- - -	-	1 drachm	2 drachms.
Tar	- - -	-	5 grains	1 scruple.
---, water of.	A pint daily.			
Tartar, cream of	- - -	-	2 drachms	1 ounce.
-----, regenerated	- - -	-	20 grains	1 drachm.
-----, soluble	- - -	-	2 drachms	1 ounce.
-----, emetic, alterative	- - -	-	$\frac{1}{8}$ grain	$\frac{1}{2}$ grain.
-----, as emetic	- - -	-	1 grain	3 grains.
Terra japonica	- - -	-	20 grains	40 grains.
Tobacco, an infusion of,	1 drachm to a pint of water; should be administered by tablespoonfuls; powerfully diuretic: or in form of clyster. See page 470.			

Tin, powder of	- - -	from 20 grains to	1 drachm.
Turmeric	- - -	20 grains	1 drachm.
Turpentine, spirit of	- - -	10 drops	30 drops.
-----, Venice	- - -	20 grains	1 drachm.
Tincture of aloes	- - -	$\frac{1}{2}$ ounce	1 ounce.
-----, compound	- - -	$\frac{1}{2}$ drachm	2 drachms.
----- assafetida	- - -	$\frac{1}{2}$ drachm	2 drachms.
----- Benzoin, compound	- - -	10 drops	40 drops.
----- cantharides	- - -	10 drops	40 drops.
----- cardamoms	- - -	1 drachm	$\frac{1}{2}$ ounce.
----- castor	- - -	$\frac{1}{2}$ drachm	$1\frac{1}{2}$ drachm.
----- catechu	- - -	1 drachm	2 drachms.
----- Peruvian bark	- - -	1 drachm	$\frac{1}{2}$ ounce.
----- iron, muriated	- - -	10 drops	60 drops.
----- Columbo	- - -	1 drachm	3 drachms.
----- gentian, compound	- - -	1 drachm	3 drachms.
----- guaiacum volatile	- - -	1 drachm	3 drachms.
----- black hellebore	- - -	1 scruple	1 drachm.
----- jalap	- - -	1 drachm	$\frac{1}{2}$ ounce.
----- myrrh	- - -	1 scruple	1 drachm.
----- opium	- - -	10 drops	40 drops.
----- camphorated,	}	1 drachm	3 drachms.
or paregoric elixir			
----- rhubarb	- - -	$\frac{1}{2}$ ounce	2 ounces.
----- senna	- - -	2 drachms	1 ounce.
----- snakeroot	- - -	1 drachm	2 drachms.
----- valerian	- - -	1 drachm	3 drachms.
----- volatile	- - -	$\frac{1}{2}$ drachm	2 drachms.
Tormentil, powder of	- - -	10 grains	1 drachm.
Turpentine, Venice	- - -	1 scruple	1 drachm.
Turmeric	- - -	1 scruple	1 drachm.
Tutty, levigated ; use external.			
Valerian, wild, powder of	- - -	20 grains	2 drachms.
Vinegar, distilled	- - -	2 drachms	1 ounce.
----- of squills	- - -	10 drops	50 drops.
-----, as emetic	- - -	$\frac{1}{2}$ ounce	1 ounce.
Verdigris, violent emetic	- - -	1 grain	2 grains.
Vitriol, white, as a tonic	- - -	2 grains	5 grains.
-----, as a quickly operating	}	20 grains	1 drachm.
emetic			
-----, blue, emetic	- - -	1 grain	3 grains.
Uva ursi, in powder	- - -	20 grains	1 drachm.
Water cress, expressed juice of	- - -	$\frac{1}{2}$ ounce	2 ounces.
----- trefoil	- - -	$\frac{1}{2}$ drachm	1 drachm.
Waters, any of the simple distilled	- - -	$\frac{1}{2}$ ounce	4 ounces.
Wax, white	- - -	20 grains	1 drachm.
-----, yellow	- - -	-----	-----
Wormwood, expressed juice	- - -	$\frac{1}{2}$ ounce	2 ounces.
White lead	- - -	1 grain	3 grains.

Wine, aloetic	-	-	from	$\frac{1}{2}$ ounce	to	1 ounce.
——, antimonial	-	-	-	20 drops		2 drachms.
——, ipecacuanha	-	-	-	1 drachm		$\frac{1}{2}$ ounce.
——, rhubarb	-	-	-	$\frac{1}{2}$ ounce		2 ounces.
Zedoary	-	-	-	10 grains		40 grains.
Zinc, flowers of	-	-	-	3 grains		10 grains.

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 this 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, as its title expresses, 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, or piece of flannel, moistened with it, may be applied to the part, and renewed every third or fourth hour, or oftener, 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; 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 add 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, hemorrhages, 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.—Take of benzoin, powdered, three ounces; balsam of Peru, two ounces; hepatic aloes, in powder, half an ounce;

rectified spirit 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 quinsy.

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 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 hypochondriacal 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 Cataplastm.—Take of barley meal, 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 Cataplastm.—Take of white lily root, four ounces; fat figs and raw onions, bruised, of each one ounce; yellow basilicon ointment, two ounces; gum galbanum, half an ounce; linseed meal, as much as necessary. Boil the roots 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 cataplastm. The galbanum must be previously dissolved with the yolk of an egg.

Where it is necessary to promote suppuration, this cataplastm 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 recall 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 these 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 crumbs 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 on 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 this purpose.

Nor is the use of clysters confined to medicines. Aliment may also be conveyed in this 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 tablespoonfuls of common salt, be added to this, it will be the *Purgine Clyster*.

Carminative Clyster.—Take of chamomile flowers, an ounce; anise seeds, half an ounce. Boil in a pint and a half of water to one pint.

In hysterical and hypochondriacal complaints, this may be administered instead of the *Fetid Clyster*, the smell of which is so disagreeable to most patients.

Oily Clyster.—To four ounces of the infusion of chamomile flowers, add an equal quantity of olive 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 humors. 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; turpentine, dissolved with the yelk of an egg, half an ounce; olive 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.

☞ We think it unnecessary to give more examples of this class of medicines, as ingredients adapted to any particular intention may be occasionally added to one or other of the above forms.

COLLYRIA, OR EYEWATERS.

EYEWATERS 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 one egg.

This is the Collyrium of Riverius. It is used in inflammation of

the eyes, to allay heat, and restrain the flux of humors. It must be spread on 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 a 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.

Forty or fifty drops of laudanum may be occasionally added to this collyrium.

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 teaspoonful of brandy.

Indeed, common water and brandy, without any 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.

I have of late been troubled with a rheum in my eyes, for which I have found great benefit, by washing them frequently with rose water. Many experience the like good effect from anointing the eyelids 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.

Japanic Confection.—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.

This supplies the place of the *Diascordium*.

The dose of this electuary is from a scruple to a drachm.

* This eyewater, as it is, I should think quite too strong for general use.—C.

 CONSERVES AND PRESERVES.

EVERY apothecary's shop was formerly so full of these preparations, that it might have passed for a confectioner's warehouse. They possess very few medicinal 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 a 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 the 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 in phthisical coughs, and spitting of blood. To have any considerable effect, however, it must be taken in large quantities.

Conserve of Sloes.—This may be made by boiling the 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 article is either preserved moist in the syrup, or taken out and dried, that the sugar may candy on 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.

It is needless to add more of these preparations, as they belong rather to the art of the confectioner than to that of the apothecary.

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 with them. Hence watery decoctions and infusions of vegetables constitute a large, and not unuseful, class of medicines. Though 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 Althæa.—Take of the roots of marshmallows, moderately dried, three ounces; raisins, 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 on the lungs, this decoction may be used for ordinary drink.

The Common Decoction.—Take of chamomile 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.

A medicine equally good may be prepared by infusing 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 evaporated. 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 teacupful 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, coarsely powdered, in a pint and a half of water to one pint; then strain the decoction. If a teaspoonful 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 snakeroot, coarsely 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 spoonfuls 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 vigor 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*.

This decoction may be taken, from a pint and a half to two quarts in the day.

Decoction of Seneca.—Take of Seneca rattlesnake root, one ounce; water, a pint and a half. Boil to one pint, and strain.

This decoction 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.

This is a 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 heartburn. 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 re-

peated, 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 larger quantity of it at once, which saves both trouble and expense.

Anodyne Draught.—Take of laudanum, twentyfive 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.

This draught is of service in an obstruction or deficiency of urine.

Purging Draughts.—Take of manna, an ounce; soluble tartar, or Rochelle 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 on 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 Draughts.—Take spirit of Mindererus, 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 the above, 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 teaspoonful 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.

It is often dangerous in dysenteries to give opiates and astringents, without interposing purgatives. The purgative is here joined with these ingredients, which renders this a very safe and useful medicine for the purposes expressed in the title.

About the bulk of a nutmeg should be taken twice or thrice a day, as the symptoms and constitution may require.

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 teaspoonful 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 teaspoonful 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 teaspoonful 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 beaten 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 tablespoonful 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 on 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 tablespoonfuls three or four times a day.

Oily Emulsion.—Take of soft water, six ounces; volatile aromatic spirit, two drachms; olive 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 prove obstinate, it will succeed better when made with the paretoric elixir of the Edinburgh Dispensatory, instead of the volatile aromatic spirit. A tablespoonful of it may be taken every two or three hours..

EXTRACTS.

EXTRACTS are prepared by boiling the substance 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 spirit, 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 vigor 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 med-

icated 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, as its title expresses, 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 chamomile flowers, dried, of each two ounces; water, two quarts. After a slight boiling, pour off the liquor.

New rum or spirit of wine may be added to this fomentation, in such quantity as the particular circumstances of the case shall require; but these are not always necessary.

Emollient Fomentation.—This is 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 anywhere; 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 quinsy, 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 quinsy.

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 quinsy, 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 these humors; 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.

The author of the *New Dispensatory* observes, that even from those vegetables which are weak in virtue, rich infusions may be obtained, by returning the liquor on fresh quantities of the substance,

the water loading itself more and more with the active parts; and that 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 chamomile 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 teacupful 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 tablespoonfuls 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 this medicine are required, a teacupful of it may be taken two or three times a day.

Infusion of Carduus.—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 flavored at pleasure with cinnamon, or other aromatic materials.

Infusion of Linseed.—Take of linseed, two spoonfuls; 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 hemorrhages, a teacupful 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. A teacupful may be given every half hour till it operates.

This supplies the place of the *Decoction of Tamarinds and Senna.*

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 teacupful of this infusion may be taken with advantage three or four times a day.

Infusion for the Palsy.—Take of horseradish 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 twentyfour hours.

In paralytic complaints, a teacupful 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 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.

This is given in the dose of two spoonfuls 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 tablespoonfuls 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, hickuping, convulsions, and other spasmodic affections, two tablespoonfuls 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 tablespoonful 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 soluble in water, but also earths, powders, and such substances as cannot be dissolved. A mixture is seldom either an elegant or an 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 pennyroyal water, of each three ounces; spirituous cinnamon water, six drachms; simple syrup, one ounce. Mix them, and take a tablespoonful 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 spoonfuls 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 tablespoonful 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 tablespoonful of it may be taken frequently.

OINTMENTS, LINIMENTS, AND CERATES.

NOTWITHSTANDING the extravagant encomiums which have been 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 Basilicon 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.

This ointment is employed for cleansing and healing wounds and ulcers.

Ointment of Calamine.—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.

This ointment, which is commonly known by the name of *Turner's Cerate*, is an exceedingly good application in burns and excoriations, from whatever cause, if fresh prepared.

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 ointment 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; verdigris, 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 basilicon 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 on the skin.

Ointment of Sulphur.—Take of hog's lard prepared, four ounces; flowers of sulphur, an ounce and a half; crude sal ammoniac, two drachms; essence of lemon, ten or twelve drops. Make them into an ointment.

This ointment, rubbed on 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 Burus.—Take equal parts 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 on 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 olive oil, an ounce; spirit of harts-horn, 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 quinsy, 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 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 olive 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 most 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 on the stomach, one, two, or three of these pills may be taken, as occasion requires.

Deobstruent Pill.—Take salt of steel; Socotrine 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."

Fetid Pill.—Take of assafetida, 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 of 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.

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.*

For the venereal disease, four of these pills may be taken twice a day; as an alterant, three; and for worms, two.

Plummer's Pill.—Take of calomel, or sweet mercury, and precipitated sulphur of 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 gum arabic, make them into pills.

* See a paper on this subject in the Edinburgh Physical and Literary Essays, by the ingenious Dr. John Gardener.

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 Pills.—Take of Socotrine 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.

These pills may be taken in the same quantity as the above.

Purgative Pill.—Take powder of Socotrine aloes, one drachm; of gum sagapene in powder, half a drachm; of gamboge, and gum arabic in powder, each, one scruple; essential oil of chamomile, ten drops; syrup of buckthorn, a sufficient quantity; beat the whole into a mass, and divide into thirtytwo 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, Socotrine 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; powder-

ed 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 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 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 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 this 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 powders, 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 strangury. 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 tumors.

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 tumors, 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 on soft leather, and applied to the region of the stomach, will be of service in flatulencies arising from hysteric and hypochondriacal affections. A little of the expressed oil of mace, or a few drops of the essential oil of mint, may be rubbed on it before it is applied.

This may supply the place of the *Antihysterical 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.

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 on 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 ankle.

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 armpit, 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 linsced flour, which is more easily prepared, and keeps moist longer than any other.

POWDERS.

THIS is one of the most simple forms in which medicines 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 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 a 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 hemorrhages, one of these powders may be taken every hour, or every half hour, if the discharge be violent.

Powder of Bole.—Take of bole Armenian, 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 this 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 hypochondriacal 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 twentyfour 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 teaspoonful 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 teaspoonful 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; Ethiop's 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 the above 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.

SYRUPS.

SYRUPS were some time ago looked on 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 twentyfive 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 twentyfour 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 solvent 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 spirit form a 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 solvent 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 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.

This tincture is not only beneficial in intermitting fevers, but also in the slow, nervous, and putrid kinds, especially towards their decline.

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 spirit of vitriol.

Volatile Fetid Tincture.—Infuse two ounces of assafetida 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 teaspoonful of it may be taken in a glass of wine, or a cup of pennyroyal 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 teaspoonful 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 with the roots, to give the tincture a color.

In obstructions of the *menses*, a teaspoonful of this tincture may be taken in a cup of chamomile or pennyroyal 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.

* 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 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 spirit, 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.

Tincture of Opium, or 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 twentyfive 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 Socotrine aloes in powder, one ounce; Virginian snakeroot 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 it 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 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 till 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 teaspoonful 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 spirit.

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 spoonfuls 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 teaspoonful 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 these 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 chincough.

The dose to an adult is from fifty to a hundred drops.

Sacred Elixir.—Take of rhubarb, cut small, ten drachms; Socotrine aloes, in powder, six drachms; lesser cardamom seeds, half an ounce; 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; Curraoa oranges, one ounce; Virginian snakeroot, half an ounce. Let the ingredients be bruised, and infused for three or four days in two pints of 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 feces have subsided, filter the elixir through paper, in a glass funnel.

This is one of the best medicines which I know for hysterical and hypochondriacal 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 spirit.

This solution is chiefly employed as an embrocation in bruises, palsies, 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.—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 a 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.

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 a 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 fra-

grance, together with a beautiful purplish or red color. 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 everything 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 it 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 on 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 headaches, &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 spirit.

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

* See *Collyrium of Lead*.

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 on 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; co-riander 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 till 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 hemorrhages; 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 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, 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 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 this 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 pennyroyal 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 hysterical 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 pennyroyal water.

Both these 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 flavor.

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 teacupful four or five times a day.

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 solvent 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 on 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, of 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 wineglass, 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, coarsely 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 vigor 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 medicine, 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 actions 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 into small pieces, are to be boiled in three pints of water, till the quantity be reduced to two. To this add a teaspoonful of fine wheaten flour, and four ounces of refined sugar; take sixty sweet almonds, and twentyfour bitter ones, blanch-

ed; 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 flavor 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.

MEDICAL ELECTRICITY.

From Thacher's Dispensatory.

THE application of this subtle fluid to medicinal purposes, was thought of soon after the discovery of the electric shock. At the first introduction of electricity as a remedy, it was very highly celebrated for its efficacy in a number of diseases; and, after various turns of reputation, its medical virtues seem now to be pretty well established.

The medicinal operation of electricity may be referred to its stimulant power. It produces forcible contractions in the irritable fibre; excites therefore to action if duly applied; and when in excess, immediately exhausts irritability. It possesses the important advantage of being easily brought to act locally, and of being confined to the part to which it is applied, while it can also be employed in every degree of force.

Electricity is applied to the body under the form of a stream or continued discharge of the fluid, under that of sparks, and that of shock; the first being more gentle, the second more active, and the last much more powerful than either of the others. The stream is applied by connecting a pointed piece of wood, or a metal wire, with the prime conductor of the electrical machine, and holding it by a glass handle, one or two inches from the part to which it is to be directed. A very moderate stimulant operation is thus excited, which is better adapted to some particular cases, than the more powerful spark or shock. The spark is drawn by placing the patient on the insulated stool, connected with the prime conductor; and, while the machine is worked, bringing a metal knob within a short distance of the part, from which the spark is to be taken. A sensation somewhat pungent is excited, and slight muscular contractions may be produced; these effects being greater or less, according to the distance at which the knob is held, if the machine be sufficiently powerful. The shock is given by discharging the Leyden phial, making the part of the body, through which it is intended to be transmitted, part of the circuit. The sensation it excites is unpleasant, and the muscular contractions considerable if the shock be moderately strong.

The general rule for the medicinal employment of electricity, is to

apply it at first under the milder forms, and gradually to raise it, if necessary, to the more powerful. Mr. Cavallo, who has published the latest and best treatise on medical electricity, entirely disapproves of giving violent shocks, and finds it most efficacious to expose the patient to the electrical aura discharged from an iron or a wooden point; or, if shocks be given, they should be very slight, and not exceed thirteen or fourteen at a time. In this way he recommends it as effectual in a great number of disorders. The patient may be electrified from three to ten minutes; but, if sparks be drawn, they should not exceed the number of shocks abovementioned.

Rheumatic disorders, even of long standing, are relieved, and generally quite cured, by drawing the electric fluid by a wooden point from the part, or by drawing sparks through flannel. The operation should be continued for about four or five minutes, repeating it once or twice every day.

Deafness, except when it is occasioned by obliteration, or other improper configuration of the parts, is either entirely or partly cured by drawing the sparks from the ear with the glass tube director, or by drawing the fluid with a wooden point.

Toothache, occasioned by cold, rheumatism, or inflammation, is generally relieved by drawing the electric fluid with a point immediately from the part, and also externally from the face. But when the body of the tooth is affected, electrization is of no use, for it seldom or never relieves the disorder, and sometimes increases the pain to a prodigious degree.

Swellings, in general, which do not contain *matter*, are frequently cured by drawing the electric fluid with a wooden point. The operation should be continued for three or four minutes every day, and in obstinate cases it is sometimes necessary to persevere in its use for several weeks.

In inflammations of the eyes, the throwing of the electric fluid, by means of a wooden point, is often attended with great benefit; the pain being quickly abated, and the inflammation being generally dissipated in a few days. In these cases, the eye of the patient must be kept open; and care should be taken not to bring the wooden point very near it, for fear of any spark. Sometimes it is sufficient to throw the fluid with a metal point; for, in these cases, too great an irritation should always be avoided. It is not necessary to continue this operation for three or four minutes without intermission, but after throwing the fluid for about half a minute, a short time may be allowed to the patient to rest and wipe his tears, which generally flow very copiously; then the operation may be continued again for another half minute, and so on for four or five times every day.

Palsies are seldom perfectly cured by means of electricity, especially when they are of long standing; but they are generally relieved to a certain degree; the method of electrifying, in these cases, is to draw the fluid with the wooden point, and to draw sparks through flannel, or through the usual covering of the parts, if they are not too thick. The operation may be continued for about five minutes a day.

Ulcers, or open sores of every kind, even of long standing, are generally disposed to heal by electrization. The general effects are

a diminution of the inflammation, and first a promotion of the discharge of properly formed matter; which discharge gradually lessens, according as the limits of the sore contract, till it be quite cured. In these cases, the gentlest electrization must be used, in order to avoid too great an irritation, which is generally hurtful. To draw or throw the fluid with a wooden, or even with a metal point, for three or four minutes per day, is fully sufficient.

Cutaneous eruptions have been successfully treated with electrization; but in these cases it must be observed, that if the wooden point be kept too near the skin, so as to cause any considerable irritation, the eruption will be caused to spread more; but if the point be kept at about six inches distance, or further if the electrical machine be very powerful, the eruptions will be gradually diminished till they are quite cured. In this kind of disease, the immediate and general effect of the wooden point, is to occasion a warmth about the electrified part, which is always a sign that the electrization is rightly administered.

Scrofulous tumors, when they are just beginning, are generally cured by drawing the electric fluid with a wooden or metal point from the part. This is one of those kinds of diseases in which the action of electricity requires particularly the aid of other medicines in order to effect a cure more easily; for scrofulous affections commonly accompany a great laxity of the habit, and a general cachexy, which must be obviated by proper remedies.

Locked jaw has in some instances been speedily cured by small shocks passing through the jaws.

Nervous headaches, even of long standing, are generally cured by electrization. For in this disease, the electric fluid must be thrown with a wooden, and even sometimes with a metal point, all round the head successively. Sometimes exceedingly small shocks have been administered; but these can seldom be used, because the nerves of persons subject to this disease are so very irritable, that the shocks, the sparks, and sometimes even the throwing the electric fluid with a wooden point kept very near the head, throw them into convulsions.

Amenorrhœa, a disease of the female sex, that often occasions the most disagreeable and alarming symptoms, is often successfully and speedily cured by means of electricity, even when the disease is of long standing, and after the most powerful medicines, used for it, have proved ineffectual. The cases of this sort, in which electrization has proved useless, are so few, and the successful ones so numerous, that the application of electricity for this disease may be justly considered as an efficacious and certain remedy.

Small shocks, that is, of about one twentieth of an inch, may be sent through the pelvis; sparks may be taken through the clothes from the parts adjacent to the seat of the disease; and also the electric fluid may be transmitted, by applying the metallic or wooden extremities of two directors to the hip in contact with the clothes; part of which may be removed, in case they be too thick. These various applications of electricity should be regulated according to the constitution of the patient. The number of shocks may be about twelve or fourteen. The other applications may be continued for two or three minutes; repeating the operation every day. But either

strong shocks, or a stronger application of electricity than the patient can conveniently bear, should be carefully avoided; for by these means, sometimes disagreeable symptoms are produced.

The application of electricity has also been beneficial in other diseases beside the abovementioned; but as the facts are not sufficiently numerous to afford the deduction of any general rules, we have thought not proper to take any particular notice of them. We may lastly observe, that, in many cases, the help of other remedies to be prescribed by the medical practitioner, will be required to assist the action of electricity, which by itself would, perhaps, be useless; and, on the other hand, electrization may often be applied to assist the action of other remedies, as of sudorifics, strengthening medicines, &c. It not unfrequently happens, that electricity is relinquished as an unsuccessful remedy, when by a more rigid perseverance a cure might have been effected.

N. B. The substance of the above article may be found in the Encyclopedia, American edition.

' This note should have followed, on page 280, the article on

INCONTINENCE OF URINE.

THE best apparatus for the relief of persons suffering under this disease, which I have seen, is this :

An ivory tube, one and a half or two inches long, to receive the penis, to be secured to the body by a tape or string passed round its upper end, which is a little larger than its body. Attached to the lower end is a bladder of any convenient size. In the bottom of the bladder is inserted a screw, through which the urine can be let off occasionally without removing the apparatus.

The bladder is the only part of this contrivance, which is not durable, and this can easily be renewed.

C.

COLLECTION AND PRESERVATION OF

SIMPLES.

From Thacher's Dispensatory.

AS the vegetable kingdom presents us with the greatest number of simples, and the substances belonging to it are the least constant in their properties, and most subject to decay, it becomes necessary to give a few general rules for their collection and preservation.

Vegetable matters should be collected in the countries where they are indigenous; and those which grow wild, in dry soils, and high situations, fully exposed to the air and sun, are in general to be preferred to those which grow in moist, low, shady, or confined places.

Roots which are annual, should be collected before they shoot out their stalks, or flowers; biennial roots in the harvest of the first, or spring of the second year; perennial, either in the spring, before the sap has begun to mount, or in harvest, after it has returned.

Those which are worm eaten, or decayed, are to be rejected. The others are immediately to be cleansed with a brush and cold water, letting them lie in it as short time as possible; and the fibres and little roots, when not essential, are to be cut away.

Roots which consist principally of fibres, and have but a small tap, may be immediately dried. If they be juicy, and not aromatic, this may be done by heat, not exceeding 100° of Fahrenheit; but if aromatic, by simply exposing them, and frequently turning them in a current of cold, dry air; if very thick and strong, they are to be split or cut into slices, and strung upon threads; if covered with a tough bark, they may be peeled fresh, and then dried. Such as lose their virtues by drying, or are directed to be preserved in a fresh state, are to be kept buried in dry sand.

No very general rule can be given for the collection of herbs and leaves, some of them acquiring activity from age, and others, as the mucilaginous leaves, from the same cause, losing the property for which they are officinal. Aromatics are to be collected after the flower buds are formed; annuals, not aromatic, when they are about to flower, or when in flower; biennials, before they shoot; and perennials, before they flower, especially if their fibres become woody.

They are to be gathered in dry weather, after the dew is off them, or in the evening before it falls, and are to be freed from decayed, withered, or foreign leaves. They are usually tied in bundles, and hung up in a shady, warm, and airy place; or spread upon the floor, and frequently turned. If very juicy, they are laid upon a sieve, and dried by a gentle degree of artificial warmth.

Sprouts are collected before the buds open; and stalks are gathered in autumn.

Barks and woods are collected when the most active part of the vegetables are concentrated in them, which happens in spring and in autumn. Spring is preferred for resinous barks, and autumn for the others, which are not resinous, but rather gummy. Barks should be taken from young trees, and freed from decayed parts, and all impurities.

The same rules direct the collection of woods; but they must be taken from very young trees. Among the resinous woods, the heaviest, which sink in water, are selected. The alburnum is to be rejected.

Flowers are collected in clear, dry weather, before noon, but after the dew is off; either when they are about to open, or immediately after they have opened. Of some the petals only are preserved, and the colorless claws are even cut away; of others, whose calyx is odorous, the whole flower is kept. Flowers which are too small to be

pulled singly, are dried with part of the stalk: these are called heads, or tops.

Flowers are to be dried nearly as leaves, but more quickly, and with more attention. As they must not be exposed to the sun, it is best done by a slight degree of artificial warmth.

Seeds and fruits, unless when otherwise directed, are to be gathered when ripe, but before they fall spontaneously. Some pulpy fruits are freed from their core and seeds, strung on threads, and dried artificially. They are in general best preserved in their natural coverings, though some, as the colocynth, are peeled; and others, as the tamarind, preserved fresh. Many of these are apt to spoil, or become rancid; and as they are then not fit for medical use, no very large quantity of them should be collected at a time.

The proper drying of vegetable substances is of the greatest importance. It is often directed to be done in the shade and slowly, that the volatile and active particles may not be dissipated by too great heat; but this is an error, for they always lose infinitely more by a slow, than by a quick drying. When, on account of the color, they cannot be exposed to the sun, and the warmth of the atmosphere is insufficient, they should be dried by an artificial warmth, less than 100° Fahrenheit, and well exposed to a current of air. When perfectly dry and friable, they have little smell; but after keeping for some time, they attract moisture from the air, and regain their proper odour.

The boxes and drawers in which vegetable matters are kept, should not impart to them any smell or taste; and more certainly to avoid this, they should be lined with paper. Such as are volatile, or of delicate texture, or subject to suffer from insects, must be kept in well covered glasses. Fruits and oily seeds, which are apt to become rancid, must be kept in a cool and dry, but by no means a warm or moist air.

Oily seeds, odorous plants, and those containing volatile principles, must be collected fresh every year. Others, whose properties are more permanent, and not subject to decay, will keep for several years.

Vegetables collected in a moist and rainy season, are in general more watery, and apt to spoil. In a dry season, on the contrary, they contain more oily and resinous particles, and keep much better. They ought to be collected annually, and, if they have been kept for a longer period, should be rejected.

FAMILY HERBAL.

A
BRIEF ACCOUNT
OF
THE PRODUCTIONS
OF
THE VEGETABLE KINGDOM, &c.
SHOWING IN ALPHABETICAL ORDER,

First, the Part used ; Secondly, its Sensible Properties ; Thirdly, its Medicinal Virtues ; and, lastly, the Mode of Exhibition.

Almonds, sweet and bitter.—Part used ; the kernels of the fruit. Sensible properties ; the sweet, oily, bland ; the bitter, oily, with a peculiar flavor and bitterness. Medicinal virtues ; the sweet, ob- tunding ; the bitter, sedative and diuretic. Mode of exhibition ; in substance, the oil being expressed from either kind indifferently. Sweet almonds are employed by trituration in making emulsions, or the milk of almonds.

Aloes Socotrine.—From the island Socotora.

Aloes Hepatic, or common aloes, from the island of Barbadoes.—Sens. prop. smell, ungrateful ; taste, extremely bitter. The Socotrine have something of an aromatic flavor, which renders them the least disagreeable. Med. virt. purgative, stimulant. Mode of exhib. pill, powder, solution, tincture.

American Senna ; *Cassia Marilandica*.—The leaves. This is a shrubby plant, found in various parts of the United States, and is cultivated in gardens for medicinal use. The stalks rise to four or five feet in height, and their summits are covered in July and August with brilliant yellow flowers. The cassia marilandica possesses nearly the same virtues of the Alexandrian senna, but is inferior to it in point of purgative properties, in the proportion of about one third. The dried leaves are employed in the form of infusion, and in a proper dose are a very useful cathartic. It is apt to occasion griping, if given in substance, but its griping quality may in a great measure be corrected by infusing with the leaves a small quantity of the root of glycyrrhiza, or anise, and employing a large quantity of water. About half an ounce of the leaves, in- fused in half a pint of water, is a proper dose for an adult. As

this article may with facility and profit be cultivated from the seeds, it deserves a more general attention as a cheap and useful medicine.

Thach. Disp.

Angelica, Garden.—Part used; the leaves, stalks, seeds. Sens. prop. aromatic. Mode of exhib. chiefly as ingredients in some distilled waters and aromatic tinctures.

Anise.—An umbelliferous plant, cultivated in the south of Europe. Part used; the seeds. Sens. prop. smell, diffusive and aromatic; taste, sweet and warm. Med. virt. stimulant. Mode of exhib. powder, infusion; oil also in compound spirit of.

Arabic, Gum.—A concrete juice, exuding from a tree growing in Egypt. Sens. prop. mucilaginous. Med. virt. obtunding. Mode of exhib. in mucilage, or strong solution in water, strained; also in troches, formed with starch, sugar, &c.

Arum.—See Cuckowpint.

Assafetida.—The gummy, resinous juice of a plant growing in Persia. Sens. prop. smell, extremely fetid; taste, acrid and nauseous. Med. virt. stimulant, antispasmodic, anthelmintic. Mode of exhib. pill, emulsion or milk, tincture.

Ash, Prickly; Aralia Spinosa.—The bark, root, and berries. This is a native of Virginia, and other southern states. The height to which this tree will grow, when the soil and situation wholly agree with it, is about twelve feet. It is a very ornamental shrub, and the stem, which is of a dark brown color, is defended by sharp prickly spines. A decoction of its bark and root has often succeeded, when taken internally, in removing rheumatic complaints. It excites a gentle perspiration. The berries are used to put into a hollow tooth when aching. A tincture of them is also used for the same purpose, both of which afford relief. In Virginia, a spirituous infusion of the berries is much esteemed in violent colic.

Thach. Disp.

Balm.—A plant with labiated flowers, cultivated in gardens. Part used; the leaves. Sens. prop. smell, very ungrateful; taste, lightly aromatic and roughish. Med. virt. tonic. Mode of exhib. infusion or tea, acidulated with lemon juice; is an excellent diluent drink in febrile complaints.

Balsam, Canada.—A liquid exudation from a species of pine tree growing in North America. Sens. prop. smell, fragrant; taste, moderately pungent and bitterish. Med. virt. tonic, stimulant. Mode of exhib. in pills, or in a state of solution, united to watery liquids by yolk of egg, or mucilage of gum arabic, honey, or sugar.

Balsam of Capivi.—A liquid exudation from a tree growing in Brazil. Sens. prop. smell, strong and diffusive; taste, acrid and bitterish. Med. virt. tonic, stimulant, diuretic. Mode of exhib. in pills, dropped on sugar, united to watery liquors by egg or mucilage.

Balsam of Tolu.—A thick resinous exudation from a tree growing in South America. Sens. prop. smell, extremely fragrant; taste, mild and grateful. Med. virt. lightly stimulant, in cold, debilitated habits; also corroborant in gleet and weaknesses. Mode of exhib. in decoction, pills, tincture, and syrup.

Bark, Peruvian.—See Cinchona.

Barley.—A species of corn commonly cultivated ; when decorticated, it is usually called French, or Pearl Barley. Med. prop. mucilaginous, nutritious, obtunding. Mode of exhib. in decoction ; being first decorticated, it is boiled in water ; sometimes, blended with figs, liquorice, and raisins, it is taken as a pectoral drink. Barley, when boiled, forms an excellent article of nourishment ; a decoction of it, properly acidulated, is one of the best beverages in acute diseases.

Blackberry ; two species, the *Rubus Villosus*, and the *Rubus Pro-cumbens*, Low or Running Blackberry, or Dewberry.—The roots. These require no description ; but their valuable properties merit the attention of every medical practitioner. In domestic practice, the roots of blackberry have acquired great confidence where they have been used for their astringent virtues in the various forms of bowel affections. It is deserving of the highest praise, as one of the most active and effectual vegetable astringents, which our country produces. The low blackberry, or dewberry, is the one commonly preferred, and the root is more astringent than the leaves or fruit. It is exhibited in decoction, in the quantity of a teacupful for an adult, or a tablespoonful for children, several times in a day. One ounce of the root gives to a pint of water the proper strength. The diseases in which it displays its efficacy, are dysentery in its closing stage, chronic diarrhœa, and cholera infantum, to check inordinate evacuations, after purgatives have been duly employed. Professor Chapman of Philadelphia, in his practical lectures, has extolled the root of this vegetable as an astringent of superior powers, and thinks it well adapted to a depraved state of the stomach and digestive organs. Dr. Mease, in his edition of the Domestic Encyclopædia, says, “ A jelly made of blackberries, when on the turn from red to black, is much used in the United States for the gravel. A friend of the editor, subject to this disease, spoke highly in praise of the remedy.” It is not improbable, that a decoction of the root would be still more efficacious in the same complaint, and that it may be extended to other diseases also. We may, perhaps, anticipate the time, when this vegetable will be received as an acquisition to our materia medica ; and, as it is a cheap and pleasant medicine, easy to be procured in every situation, it should be recommended to general attention. *Thack. Disp.*

Bole, French.—An earth of the argillaceous kind, impregnated with iron. Sens. prop. absorbent, astringent. Med. virt. desiccative. Mode of exhib. powder, electuary, liniment.

Burdock.—A plant with compound flowers contained in prickly heads, growing wild. Part used ; the root. Sens. prop. sweetish, with a slight bitterness and roughness. Med. virt. diuretic and sudorific. Mode of exhib. decoction ; two ounces of the fresh root boiled in three pints of water till reduced to two pints ; the strained liquor may be drank in the course of twentyfour hours, in scurvy, rheumatism, and dropsy.

Butternut ; *Juglans Cinerea*.—The unripe fruit and the inner bark. This tree is generally known throughout the United States, and is now introduced into the materia medica of the national Pharma-

copœia. During the American war, the extract, made from the inner bark of this tree, attracted the attention of Dr. Rush, and other medical men in our military hospital; and, being frequently administered to patients under the operation of inoculated smallpox, it was proved to be an excellent substitute for jalap or other cathartics. It is now esteemed as a valuable purgative, in doses from ten to thirty grains, not occasioning heat or irritation; and is greatly commended in cases of dysentery. Conjoined with calomel, it is rendered more active and efficacious, especially in bilious habits. In cases of habitual costiveness, the extract of butternut is to be preferred to most other cathartics, as it leaves the bowels in a good state. As this extract is often very carelessly prepared by the country people, it ought to be prepared by the apothecaries, or practitioners themselves; and, as a domestic medicine of considerable importance, it should be adopted by every physician. The bark of the root of this tree will excite a blister; and the bark and shells of the nuts dye a good brown color. A decoction of the inner bark is advantageously employed as a cathartic in the disease of horses called the *yellow water*. The extract should be made from the bark in the month of May or June. The bark of butternut is known to be the basis of the bilious cordial sold in the shops.

Thach. Disp.

Cajeput Tree; *Melaleuca Leucadendron*.—The volatile oil. The tree which furnishes the cajeput oil is frequent in the East Indies. The essential oil, obtained by distillation from the leaves and fruit, has a green or yellowish color, a strong fragrant odour, and an extremely pungent taste. It is highly volatile. This oil has been used as a highly diffusible stimulant and antispasmodic, in tympantites, hysteria, palsy, chronic rheumatism, and various other diseases of debility. Its dose is three or four drops. It is also applied externally to relieve rheumatic and gouty pains, and violent headaches. But its most remarkable effect is in that painful complaint, the toothache. From whatever cause this affection may proceed, whether from a carious tooth, rheumatic acrimony, catarrh, &c. the cajeput oil has generally been found efficacious in removing it, if dropped on lint, and placed in the cavity of the tooth, or even around the gum.

Thach. Disp.

Calamus Aromaticus, or *Sweet-scented Flag*.—A perennial plant growing in marshy situations. Part used; the root. Sens. prop. smell, aromatic; taste, warm and bitter. Med. virt. tonic. Mode of exhib. infusion, tincture; also in decoction.

Camphor.—A solid concrete, obtained from a tree growing in Japan and Sumatra. Sens. prop. smell, fragrant and penetrating; taste, pungent, with a sense of coolness. Med. virt. stimulant, antispasmodic, diuretic. Mode of exhib. in pill or bolus, in watery emulsion with sugar or mucilage. Externally; dissolved in oil or rectified spirit, also in ointments and liniments.

Canella.—The bark of a tree growing in the West Indies. Sens. prop. smell, aromatic; taste, warm and pungent. Med. virt. aromatic, stimulant, stomachic. Mode of exhib. powder; also in the compound tincture of gentian.

- Cantharides*.—Spanish flies ; insects of the beetle kind, found in the south of Europe. Sens. prop. smell, disagreeable ; taste, highly acrid ; caustic. Med. virt. stimulant, vesicating, diuretic. Mode of exhib. internally, in tincture ; externally, in powder and extract formed into an ointment and plaster.
- Caraway*.—An umbelliferous plant, cultivated in gardens. Part used, the seeds ; they contain a large proportion of essential oil. Sens. prop. moderately warm and aromatic. Med. virt. carminative, stimulant. Mode of exhib. powder, and said to be particularly corrective of the odour, taste, and griping quality of senna. From these seeds a spirituous water is distilled.
- Cardamoms, Lesser*.—The seeds of a perennial plant growing in the East Indies. Sens. prop. smell, very grateful ; taste, warm and pungent. Med. virt. carminative, stimulant, stomachic. Mode of exhib. powder, tincture, which are frequently employed as correctors of medicines of the cold, aperient class.
- Carrot*.—An umbelliferous plant growing wild. Part used ; the seeds. Sens. prop. lightly aromatic and pungent. Med. virt. stimulant, diuretic. Mode of exhib. powder, infusion, in scorbutic disorders and dropsy, and in diuretic drinks.
- Cascarilla*.—The bark of a shrub growing in the West Indies. Sens. prop. aromatic and bitter. Med. virt. tonic, stomachic. Mode of exhib. powder, infusion, decoction, tincture, and extract. A useful medicine in bilious, remittent, malignant, and intermittent fevers.
- Castor*.—The inguinal glands of the Castor or Beaver. Part used ; the internal friable matter. Sens. prop. smell, strong and ungrateful ; taste, acid and nauseous. Med. virt. stimulant, antispasmodic. Mode of exhib. powder, pill, bclus, tincture.
- Catechu* has erroneously been called *Japan earth*.—It is an extract obtained by infusing the wood of a tree growing in the East Indies. Sens. prop. astringent, with a degree of sweetness. Med. virt. tonic. Mode of exhib. decoction, infusion, powder, tincture ; in obstinate diarrhœas, dysenteries, and other preternatural discharges.
- Chamomile*.—A trailing plant, with compound flowers, cultivated in gardens. Part used ; the leaves and flowers. Sens. prop. smell, strong ; most agreeable in the flowers ; taste, nauseous and bitter. Med. virt. tonic, aperient, antiseptic. Mode of exhib. powder, infusion, extract of, formed into pills. Externally ; in decoction for fomentations ; also for clyster with mallow flowers and fennel seeds.
- Charcoal of Wood ; Carbo Ligni*.—Common charcoal of wood, (carbonous oxide,) or carbon of the French chemists, is a sort of artificial coal, consisting of half burnt wood. It is in the form of solid masses of a black colour, is brittle, and has neither smell nor taste. It is extremely porous, and therefore absorbs light strongly, which accounts for its blackness ; for, the rays of light, striking on the charcoal, are received and absorbed in its pores, instead of being reflected, whence, the body must of necessity appear black. This substance also attracts air from the atmosphere, which it continues to absorb for a considerable time. It is insoluble in water, and a bad conductor of caloric, but an excellent one of electricity.

This substance is found to consist of 63, 86 of carbon, and 36, 14 of oxygen.

Charcoal possesses a number of singular properties, which render it of considerable importance in many respects. It is incapable of putrifying or rotting, like wood; and so remarkable is the durability of this substance, that it may be preserved to an indefinite length of time; for there yet exists, according to Dodart, charcoal made of corn, (probably in the days of Cæsar,) which is in so complete a state, that the wheat may be distinguished from the rye. Besides the great advantage which this article affords to the artist and manufacturer, it has been of late employed with considerable success—First, in correcting the burnt, or empyreumatic taste in ardent spirits—Secondly, in depriving rancid oil of its disagreeable flavor—Thirdly, in restoring putrid meat. For these useful purposes, it should be previously reduced to powder, and that only used which is fresh prepared, or has been kept in close vessels, that it shall have absorbed no fixed air from the common atmosphere. The tainted flavor of ardent spirits, or the unpleasant one of those distilled from grain, may be entirely destroyed, by merely shaking it with powdered charcoal.

Charcoal is of still greater utility for purifying water on shipboard. The most offensive water may be rendered perfectly sweet, by merely filtrating it through maple, hickory, or oak coal and sand. New made charcoal, by being rolled up in cloths that have contracted a disagreeable odour, effectually destroys it; and the bad taint of meat, beginning to putrify, is in like manner corrected. It is possible that meat surrounded by fresh charcoal, might keep sweet for months. On account of its absorbent and antiseptic properties, this substance promises to be of considerable service in medicine. It has been found to arrest the progress of mortification, when applied in the form of medicated poultice to the affected part, and frequently repeated. In a variety of instances it has been found to have a remarkable effect, in removing habitual costiveness, without inducing an extraordinary degree of weakness, especially if it be mixed with syrup of yellow roses. Many persons, afflicted with that disagreeable complaint, a fetid breath, from a costive habit, have obtained effectual relief by taking, two or three times in a day, a tablespoonful of each of the above articles. Charcoal, made from maple wood, or burnt bread, finely powdered, makes a simple, efficacious, and safe tooth powder, which is preferable to any other. It neutralizes, and entirely destroys for a time, any fetor which may arise from a carious tooth. It has lately been found to cure *tinea capitis*, by being sprinkled over the ulcer in fine powder.

Charcoal has been employed with good success in ulcerated state of the fauces and gums depending on a disordered stomach. It possesses tonic powers when applied to the alimentary canal, and is useful in pyrosis, in some stages of dysentery with acrid discharges, and in putrid fevers. The dose is a tablespoonful of the fine powder dissolved in flour and water twice in a day. In Europe, particularly in the British army, charcoal has been employed

with superior advantages to the Peruvian bark in intermittent and remittent fevers. From half a drachm to two drachms given three or four times during the intermission, or immediately before the expected paroxysm, will in most cases prove sufficient. Two or three doses have often interrupted the expected paroxysm, and cut short the disease.

The most eligible process for preparing charcoal for medicinal uses, free from all impurities and disagreeable taste, is, to enclose small billets of wood in an iron cylinder, having a tube fixed to one end, and distil them until no more smoke and water escape from the tube. Then put out the fire, and close the mouth with clay, until the cylinder cool. The barrels of old guns or pistols, may serve for this purpose; or the pieces of wood may be put into a pot not closely covered, and surrounded with live coals, until all smoke from the pot shall cease. Then remove the coals and closely lute the cover with clay, until the pot cool. Or pulverize some well burnt common charcoal, and then heat it in a covered crucible to a glowing red, till it cease to give out any inflammable vapor. It should be immediately secured in well stopped glass bottles, and in that way it may be preserved unimpaired for any length of time. Charcoal is one of the greatest nonconductors of heat. This quality renders it applicable to a variety of economical purposes.

Thach. Disp.

Cinchona.—The bark of a tree growing in Peru. About the year 1640, the lady of the Spanish Viceroy, the Comitissa del Cinchona, was cured of an obstinate intermittent by this bark; and from the interest which Cardinal de Lugo and the Jesuit brotherhood took in its sale and distribution, it has been called Cardinal de Lugo's powder, Jesuits' bark, &c.; from the place of its growth, Peruvian bark; or simply, from its preeminent virtues, the BARK. In many foreign countries, it is nevertheless better known by the name of Quinquina, or Cinchona. Sens. prop. smell, peculiar, not agreeable; taste, strongly bitter and astringent. Med. virt. tonic, antiseptic. Mode of exhib. in powder, electuary, infusion, decoction, or the extract may be given in the form of pills, either alone or with other medicines. The extract is well calculated for weak stomachs that cannot bear much bark in substance. Cinchona finely powdered and quilted in the folds of a linen waistcoat, or repeatedly exhibited in the form of a clyster, has frequently proved efficacious in obstinate agues, when every other method has failed; particularly with children, and in relaxed habits.

Cinnamon.—The bark of a tree growing in the island of Ceylon, and which has been transplanted lately to various other places. Sens. prop. a warm and extremely grateful aromatic and astringent. Med. virt. tonic, stimulant. Mode of exhib. powder, infusion, decoction, tincture; also employed in simple, and in a spirituous distilled water, as a vehicle, or sometimes as an adjunct, to various other medicines.

Cloves.—The immature flowers and flower cups of a tree growing in the East Indies. Sens. prop. smell, very fragrant; taste, extremely hot and acrid. Med. virt. stimulant, carminative. Mode of exhib.

powder, oil; the former may be employed by infusion, two drachms of cloves to half a pint of boiling water, in doses of three or four spoonfuls, against flatulency, in dyspepsy, and as a vehicle to other medicines.

Colocynth, or *Bitter Apple*.—The fruit of a species of gourd growing in the east. Part used; the fungous medullary pulp. Sens. prop. intensely bitter, acrid, and nauseous. Med. virt. an extremely irritating cathartic. Mode of exhib. infusion, powder, pill, extract.

Coltsfoot.—A perennial plant with compound flowers, growing wild. Part used; the leaves and flowers. Sens. prop. mucilaginous, bitterish, and roughish. Med. virt. obtunding, tonic. Mode of exhib. infusion, decoction; in hectic and pectoral complaints, in the form of tea.

Columbo.—A root brought from the island of Ceylon. Sens. prop. smell, slightly aromatic; taste, intensely bitter. Med. virt. tonic, antiseptic, stomachic, a corrector of putrid bile. Mode of exhib. powder, infusion, tincture. Employed in many instances of dyspepsy with great advantage, and to stop vomiting. The powder, in doses of ten grains to thirty, joined with equal parts of vitriolated kali, is given with success in acute bilious cases.

Coriander.—An umbelliferous plant cultivated in gardens. Part used; the seeds. Sens. prop. smell, aromatic; taste, moderately warm. Med. virt. carminative, stomachic. Mode of exhib. infusion, powder, tincture. These have the common qualities of other carminative seeds, and, when dried, are generally very agreeable. Infused along with senna, they are more powerful in correcting the odour and taste of this than any other aromatic, and are equally powerful in obviating the griping that senna is very ready to produce; hence coriander seeds are an ingredient in various purgative compositions.

Cow Itch.—A papilionaceous plant, growing in both Indies. Part used; the hairs covering the pods. Sens. prop. mechanically irritating. Med. virt. anthelmintic. Mode of exhib. a teaspoonful to a tablespoonful of the medicine, mixed with syrup or molasses, and taken in a morning fasting, occasions no uneasiness in the primæ viæ, which are defended by mucus. The worms are said to appear with the second or third dose; and, by means of a purgative dose of the solution of vitriolated magnesia, the stools have consisted chiefly of worms.

Crabs' Claws.—The black tips of the claws of the common crab. Sens. prop. absorbent, calcareous. Med. virt. antacid. Mode of exhib. powder.

Crabs' Eyes (so called).—Stony concretions found in the head or stomach of the river craw fish. Sens. prop. absorbent, not calcareous. Med. virt. antacid. Mode of exhib. powder.

Cuckow Pint, *Arum*, or *Wake Robin*.—A perennial plant growing wild. Part used; the root. Sens. prop. extremely hot, pungent, and acrid, especially when fresh. Med. virt. stimulant. Mode of exhib. dose, grains ten or twenty; also in conserve, half a drachm to a drachm, is stimulant and attenuant, and is well suited to phlegmatic habits. This root is knotty, roundish, and white. When it is

collected in the spring, before the leaves shoot, or in autumn, after flowering, it contains a milky juice of very great acrimony. Applied to the tongue, it causes a burning heat, which lasts for many hours, and excites considerable thirst. These painful symptoms may be relieved by buttermilk or oily fluids. Rubbed between the fingers, it blisters and excoriates them; yet, notwithstanding, it is a corrosive vegetable poison, its acrimony is easily destructible; by drying, it loses the greatest part of its acrimony, and by repeated washings it is also rendered perfectly mild. A tailor had lately a paralytic stroke, by which he was bereaved of the use of his right hand; he was advised to rub it frequently with the root of arum, and also to apply a poultice of it to his hand. He is now a great deal better, and can make use of his hand, though not, however, so well as formerly; he has, therefore, been directed to wash his hand and arm, two or three times a day, with a tepid infusion of this root, mixed with flower of mustard seed; and then to apply the following antiparalytic embrocation: take a pint of bruised mustard seed, moisten it well with equal parts of spirit of rosemary and simple spirit of lavender; after the mixture has stood twentyfour hours in a very gentle heat, squeeze it by a hand press; the liquid thus obtained is an uniform mixture of the oil with the pungent part of the seed and the aromatic spirits, and is, indeed, worthy of being called—the Essence of Mustard.

Cumin.—An umbelliferous plant, cultivated in the south of Europe. Part used; the seeds. Sens. prop. smell, strong and ungrateful; taste, warm and bitterish. Med. virt. stimulant, antiseptic. Mode of exhib. powder, infusion; externally, as a warm poultice, or a discutient plaster.

Currant, Black.—The fruit of a native shrub that grows wild in England, and is cultivated for the sake of its acid, cooling, antiseptic juice, of which a syrup and a rob are prepared, which is employed in recent catarrhs, attended with sore throat or fever.

Currant, Red.—This, like the former, is cultivated for the sake of its pleasant, subacid fruit; of this a jelly is formed, by boiling the juice with a sufficient quantity of sugar, which is often used as an antiseptic demulcent in sore throats, and, dissolved in water, forms a pleasant, cooling drink in bilious and feverish complaints. Mr. F. S. Stuart, of Billeriac in Essex, has informed the public, that he was brought to the verge of the grave by a consumption of the lungs, and restored to perfect health by eating three or four pints a day of ripe currants, white and red; and he mentions other persons, who have been recovered from the same disease by the same means.

Dandelion.—A plant with compound flowers, growing common. Part used; the herb and root. Sens. prop. abounding in a milky, bitterish, subacid juice. Med. virt. aperient, diuretic, resolvent. Mode of exhib. expressed juice of the herb, decoction and infusion of the root. The root, with sorrel leaves, in broths, taken daily for some months, interposing, now and then, a laxative dose of cream of tartar, has removed hardness of the liver, ascites, and gall stones.

Dill.—An umbelliferous plant growing in warm climates. Part used;

the seeds. Sens. prop. mildly aromatic. Med. virt. stimulant. Mode of exhib. a simple distilled water, and an essential oil.

Dock; *Rumex Britannica*.—The yellow rooted Water Dock. The root and leaves. It grows in peat marshes, wet ditches, pools, at the sides of rivers, and in shallow water. It flowers in July and August, and is succeeded by large seeds. This plant affords a medicine of considerable efficacy, when applied externally, as a wash for spongy, putrid gums; its roots when pulverized have been found excellent for cleaning the teeth. These roots are of a bitter, astringent taste, and have often been employed for the cure of scorbutic and cutaneous disorders, whether administered internally, or applied externally in ointments, cataplasms, lotions, or fomentations. Decoctions of the leaves are, likewise, an efficacious laxative, and have been taken with advantage in rheumatic pains, and chronic diseases, occasioned by costiveness, or by visceral obstructions. The dose usually given, is a decoction of half an ounce of the fresh roots, or from one to two drachms of them, in a dry state.

The Indians, says Dr. Cutler, used the root of water dock with great success in cleansing foul ulcers. It is said, they endeavored to keep it a secret from the Europeans.

Dr. Withering says, he saw an ill conditioned ulcer in the mouth, which had destroyed the palate, cured by washing the mouth with a decoction of this root, and drinking a small quantity of the same decoction daily.

Thach. Disp.

Egg, Hen's.—Part used; the yelk, white, and shell. Sens. prop. yelk, sapid and mucilaginous; white, insipid and mucilaginous. They are both unwholesome and delicate articles of food. Med. virt. the yelk is often used in pharmacy, for suspending oily and resinous substances in water; the white is used to clarify liquids; the shells, freed from the membrane lining them, and finely levigated, are an absorbent. Two raw, new laid eggs, beaten up in a glass of water, taken in the morning fasting, and repeatedly given every four hours throughout the day, have proved very beneficial in obstinate jaundices occasioned by viscid bile, or gluten obstructing the biliary ducts.—The yelk of two new laid eggs, beaten up with an ounce and a half (i. e. three tablespoonfuls) of rose water, seasoned by three or four grains of nutmeg, and mixed with half a pint of milk, fresh from the cow, sweetened with powdered sugar candy, or syrup of capillaire, if taken early (i. e. before rising) in the morning, is a safe palliative medicine in pulmonary consumption. The use of it should be persisted in some weeks; malt and spirituous liquors should be avoided, and, to restrain the profuse perspirations to which hectic patients are liable, one to three or four teaspoonfuls of the following electuary may be taken in the morning, when the heats come on; at noon, and also at bed time. Conserve of roses, two ounces; diluted vitriolic acid, three drachms; mix.

Elder.—A small tree growing in hedges. Part used; the flowers, berries, and bark. Sens. prop. flowers, fragrant; berries, sweetish; bark, sweetish and subacid. Med. virt. flowers and berries laxative. Mode of exhib. infusion of the flowers, laxative; and, boiled

in oil and suet, forms a cooling emollient ointment; decoction of the bark, emetic and purgative in dropsical cases. The rob, or inspissated juice of the berries, is cooling and aperient. It is recommended in dyspepsy, and debility of the urinary passages, in doses of a drachm to half an ounce or more.

Elecampane.—A large plant with compound flowers, growing wild. Part used; the root. Sens. prop. aromatic, nauseous, bitter, pungent. Med. virt. stimulant, aromatic. Mode of exhib. powder, infusion, decoction.

Elm.—A tall timber tree, of common growth. Part used; the inner bark. Sens. prop. mucilaginous, subastringent. Med. virt. tonic, aperient. Mode of exhib. decoction; the quantity of a pint to a quart a day, prepared by boiling four ounces of the inner bark, bruised, in four pints of water to two pints; to relieve leprous and other cutaneous disorders.

Elm; *Ulmus Aspera*.—The inner bark of the Slippery Elm. We have two species of ulmus or elm in the United States. The red or *slippery* elm, or American rough leaved elm of Marshal, (*ulmus rubra* of Mullenburgh,) on account of its many valuable properties, deserves particular mention. It rises to the height of thirty feet, with a pretty strong trunk, dividing into many branches, and covered with a light coloured, rough bark. The leaves are oblong, oval, and sharp pointed, unequally sawed on their edges, unequal at the base, very rough on their upper surface, and hairy underneath. The flowers are produced thick upon the branches, upon short, collected foot stalks, and are succeeded by oval, compressed membranous seed vessels, with entire margins, containing one oval compressed seed. The inner bark, by infusion or gentle boiling in water, affords a great quantity of insipid mucous substance, that is applicable to a variety of important uses. Dr. Mitchell says, it has been beneficially administered in catarrhs, pleurisies, and quinsies; it has been applied as a poultice to tumors, and as a liniment to chops and festers. [Letter to Dr. North, Amer. Museum, vol. 7th.] The surgeons of our revolutionary army, and also those of General Wayne's army, who defeated the Indians in August, 1794, experienced the most happy effects from the application of poultices of the elm bark to gunshot wounds, which were soon brought to a good suppuration, and to a disposition to heal. It was applied as the first remedy. When tendency to mortification was evident, this bark bruised and boiled in water, produced the most surprising good effects. After repeated comparative experiments with other emollient applications, as milk and bread, and linseed poultice, its superiority was firmly established. In old, ill conditioned ulcers, and in fresh burns, equal benefit was derived from it. The infusion of the bark was used with advantage as a diet drink, in pleurisy, and catarrh, and also in diarrhoea and dysentery. Many of the above facts relative to the medicinal qualities of the red elm, were communicated, says the editor of the Domestic Encyclopædia, by Dr. Joseph Strong, of Philadelphia, who served as surgeon in the western army; and adds, as a proof of the nutriment which it affords, that a soldier who lost his way, supported

himself for ten days upon this mucilage and sassafras. The editor of the abovementioned work, (vol. 2d, p. 448,) proceeds to observe, that the red elm tree may be considered as a highly valuable addition to our stock of medicines, exclusively American, and ought to be carefully searched for by the medical gentlemen in the country, and preserved from the indiscriminate axe.

The inner bark of the slippery elm, or its mucilage, has been found by recent experience to be singularly beneficial when applied to chilblains, cutaneous eruptions, and various kinds of sores and ulcers; and, there is much reason to believe, that its internal use in dysentery, consumption, &c. may be attended with greater advantage than is generally imagined. This tree certainly may be recommended to the particular regard of medical practitioners as a new, and domestic article of our materia medica, whose medicinal virtues will probably be found to merit a large share of confidence.

Thach. Disp.

Fennel, Sweet.—An umbelliferous plant, growing in the warmer climates. Part used; the seeds. Sens. prop. smell, aromatic; taste, warm and sweetish. Med. virt. stimulant, diuretic. Mode of exhib. powder, infusion, and simple distilled water.

Figs.—The preserved fruit of the fig tree, aperient, obtunding, in emollient decoctions. Externally heated as warm as they can easily be borne, to promote the suppuration of a phlegmon when so situated, that other cataplasms cannot be easily supplied.

Fox Glove, Digitalis.—A plant with beautiful gaping flowers, growing wild. Part used; the leaves. Sens. prop. poisonous, bitterish, very nauseous. Med. virt. strongly cathartic, diuretic, emetic, and sedative. Mode of exhib. infusion, decoction, powder, tincture. In asthmatic and dropsical cases, the powder (which is the least uncertain way of exhibiting this herculean remedy) may be given in doses of a quarter or half a grain, very gradually and cautiously increased to two grains, mixed with one to two grains of aromatic powder, once in eight or twelve hours, according to the effect.

Galls.—Excessences formed on the oak tree by insects in the warmer climates. Sens. prop. strongly astringent. Med. virt. tonic. Mode of exhib. powder, infusion, decoction. Externally applied to parts affected with hemorrhoids, or piles, in the proportion of a drachm of powdered galls mixed with one ounce of hog's lard.

Galbanum.—A gummy resinous concrete, obtained from an umbelliferous plant growing in Ethiopia. Sens. prop. smell, fetid; taste, bitterish, warm, and pungent. Med. virt. discutient, stimulant, antispasmodic. Mode of exhib. pill, emulsion, tincture, plaster.

Gamboge.—A gummy resinous concrete, obtained from certain East India trees. Sens. prop. taste, acrid; colour, deep yellow. Med. virt. emetic, and strongly cathartic. Mode of exhib. pill, emulsion, tincture.

Garlic.—A bulbous rooted plant, cultivated in gardens. Part used; the roots. Sens. prop. smell, very strong, diffusive, and ungrateful; taste, extremely acrimonious and penetrating. Med. virt. internally, stimulant, expectorant, diuretic, laxative, and sudorific; improper for persons of an inflammatory or sanguine temperament,

but an excellent medicine for the aged and phlegmatic. The editor is sorry that the limits prescribed to him will not permit him to add more in recommendation of this useful "Domestic Medicine," than that the juice of garlic dropped on cotton, and applied to the meatus or orifice of the ear, for deafness, till it excite moderate pain and heat, will increase the secretion of mucus in the organ of hearing; that garlic is eaten crude, taken in the form of pill or bolus, and in whey. It is often applied with success, in the form of cataplasms, to the soles of the feet, to relieve disorders of the head or breast, and pains of the teeth.

Gentian.—A perennial plant, growing in the mountainous parts of Germany. Part used; the root. Sens. prop. intensely bitter. Med. virt. tonic, stomachic. Mode of exhib. infusion, tincture. The extract may be joined with the preparations of iron, and with other medicines, and taken in the form of pills. A medicine has been long famous and much employed in this country, under the title of Elixir Stomachicum, or Stoughton's Elixir, in resemblance and medical effect coinciding with the compound tincture of gentian.

Ginger.—The root is often taken as a carminative and stomachic, prepared as a sweetmeat. This useful root is often directed in powder, being aromatic, cordial, and carminative. It is likewise a useful ingredient in infusions.

Guaiaicum.—A large tree growing in the West Indies. Part used; the wood, bark, and resin, or gum. Sens. prop. smell, lightly aromatic; taste, subacid. Med. virt. alterative, stimulant, sudorific. Mode of exhib. the wood and bark in decoction; the gum in pill, bolus, tincture. Before the preparations of quicksilver were discovered to have a specific virtue in curing the venereal disease, guaiacum sold at an immense high price.

Hartshorn.—The horns of the male red deer. Rasped and boiled in water, they yield an insipid, obtunding, nutritive jelly. An astringent decoction is prepared by boiling calcined hartshorn with gum arabic, as directed in the Appendix.

Honey.—A vegetable juice, collected from flowers by the bee. It is the basis of various medicinal compositions, and its domestic uses are too well known to need recapitulation in the narrow limits to which we are now necessarily prescribed.

Hop; *Humulus Lupulus.*—The flowers. This perennial plant is a very strong bitter, accompanied with a degree of aromatic flavor, and some astringency; these are extracted by water by infusion; by decoction the aromatic flavor is lost. Along with its bitterness it has a narcotic power: of this the popular remedy, sometimes successful, of a pillow of hops to procure sleep in the delirium of fever and in mania, is a proof. It accordingly, when given internally in a full dose, reduces the frequency of the pulse, and procures sleep. It has been employed as an anodyne, either in substance, in the dose of three grains, or under the form of infusion or tincture. A cataplasm or ointment, prepared from it, has been also used as anodyne application to cancerous sores.

The hop is an excellent stomachic bitter, highly useful in dyspepsia and other gastric affections. Recently, hop has been administered

- in nephritic and calculous affections with such manifest advantage as to obtain high encomiums as a valuable antilithic. A strong infusion of hop proves a certain solvent of the stone out of the body, and it is asserted by high authority, that it seldom fails to alleviate the pain, and increase the secretion of urine, when taken internally. Dr. Barton, however, found by experience, in his own peculiar case, that the use of the highly hopped malt liquors subjected him more frequently to nephritic attacks. The infusion is directed in doses of about a wineglass full every few hours, to the extent of a pint in a day.—*See Amer. Mod. Practice, p. 606, 607.—Thach. Disp.*
- Horseradish.**—A plant with cruciform flowers, usually cultivated in gardens. Part used; the root. Sens. prop. acrid, penetrating, with very pungent effluvia. Med. virt. stimulant, diuretic. Mode of exhib. infusion with mustard seed, against dropsical and paralytic complaints; also in the compound spirit of horseradish. According to the late Dr. Withering, an infusion of scraped horseradish in milk makes one of the safest and best cosmetics.
- Hyssop, Hedge.**—A low plant with irregular flowers, growing in gardens. Part used; the herb. Sens. prop. bitter, nauseous. Med. virt. diuretic, violently emetic, and cathartic. Mode of exhib. two to six or eight grains of the powdered root, beginning with a very small dose, which may be gradually increased, against dropsy and worms. It is said to have been serviceable in those cases, given as an infusion, made by adding one drachm of the powdered root to a pint of boiling water, milk, or beer. Dose, a tablespoonful three times a day.
- Jalap.**—The root of a plant growing in the West Indies. Sens. prop. resinous, slightly pungent. Med. virt. strongly purgative. Mode of exhib. powder, pill, extract, tincture; a cathartic better suited to cold, phlegmatic, than hot, bilious constitutions.
- Ipecacuanha.**—The root of a plant growing in South America. Sens. prop. bitterish and subacid. Med. virt. emetic, sedative, sudorific. Mode of exhib. pill, powder, bolus; also infused in wine.
- Isinglass.**—A glutinous substance, brought from Russia, prepared from the membranous parts of fishes. Sens. prop. restorative, agglutinating. Mode of exhib. boiled into a jelly with milk, to abate fluor albus, diarrhœas, and other weaknesses. It is an ingredient in the court sticking plaster.
- Kino.**—A gum resin, from the vicinity of the river Gambia. Sens. prop. astringent, mucilaginous. Med. virt. tonic, obtunding. Mode of exhib. powder, electuary, tincture. In chronic diarrhœas and dysenteries, in hemorrhages from the uterus, and in diseases arising from laxity of the solids.
- Lavender.**—A bush plant, cultivated in gardens. Part used; the flowering spikes. Sens. prop. smell, fragrant; taste, warm and bitterish. Med. virt. stimulant, tonic, aromatic. Mode of exhib. infusion, simple spirit, compound spirit, essential oil.
- Lemon.**—The fruit of a tree growing in warm climates. Part used; the juice and rind. Sens. prop. juice, a grateful acid; rind, a very fragrant aromatic. Med. virt. juice, cooling and antiseptic; rind, stimulant. Mode of exhib. juice, in drinks, with water and sugar;

and combined with alkaline salts. Rind, in infusions and tincture. The syrup mixed with many medicinal preparations for bilious and inflammatory disorders.

Linseed.—The seed of the common flax. Sens. prop. unctuous, mucilaginous. Med. virt. obtunding, emollient. Mode of exhib. infusion, powder for cataplasms. A bland oil is expressed from them of a disagreeable flavor.

Liquorice Root.—A rich, durable sweet. Med. virt. obtunding, and useful in abating thirst. Mode of exhib. powder, infusion, decoction; extract, either in infusion or slowly dissolved in the mouth.

Logwood.—A wood of a tree growing in the Bay of Honduras. Sens. prop. sweetish, astringent. Med. virt. tonic. Mode of exhib. decoction, infusion, extract; employed against diarrhœas and dysenteries.

Mace.—A membrane covering the shell of that fruit, the kernel of which is the nutmeg. Med. virt. tonic. Mode of exhib. expressed oil, an ingredient in the laudanum, or stomach plaster.

Mallow, leaves, flowers, and root.—A perennial plant, growing wild. Sens. prop. mucilaginous; the roots sweetish. Med. virt. obtunding, emollient. Mode of exhib. decoction, cataplasm.

Manna.—A concrete juice, exuding from a kind of ash, chiefly in Calabria and Sicily. Sens. Prop. sweet, unctuous. Med. virt. aperient, obtunding. Mode of exhib. solution in watery liquors, electuary, syrup.

Marjoram, sweet, and wild.—This herb is an ingredient in the compound powder of asarabacca, a powder that is equally efficacious with the best herb snuff.

Marsh Mallow.—A perennial plant, growing in marshes. Part used; the leaves and root. Med. virt. obtunding. Mode of exhib. powder, infusion, and in decoction of barley with a little liquorice root, against catarrhs and nephritic complaints. The root an ingredient in the compound powder of tragacanth, is an elegant syrup, and a useful ointment.

Mastich.—A concrete resin, obtained from the Lentisk tree, in the Isle of Chio. Sens. prop. smell, resinous and agreeable; taste, bitterish and lightly warm. Med. virt. tonic, antiseptic; chewed, it disguises a fetid breath, and strengthens the gums; it is also occasionally used with fragrant substances by way of fumigation.

Meadow Saffron.—A bulbous rooted plant, growing in wet meadows. Part used; the root. Sens. prop. smell, pungent; taste, acrid. Med. virt. strongly cathartic and diuretic. Mode of exhib. an active oxymel is prepared by infusing this root in vinegar, with honey. The dose of this oxymel is a teaspoonful or two in a cup of tea, or of distilled water, as a remedy for the dropsy. If given in a greater dose at first, or if it is too rapidly repeated, it will occasion bloody stools and other morbid symptoms.

Mint, Pepper, or Peppermint.—A plant cultivated in gardens. Part used; the leaves. Sens. prop. smell, strong and diffusive; taste, very penetrating, with a sense of coolness. Med. virt. stimulant, carminative, antispasmodic. Mode of exhib. infusion, distilled water, spirit, and essential oil. These are principally used as a domestic remedy for flatulent colic. The essential oil is often given in

doses of a few drops on sugar, in cramps of the stomach; but if that organ be in a state of inflammation, it may do much mischief. What is called the Essence of Peppermint, is the rectified oil dissolved in spirit of wine.

Mint, or *Spear Mint*.—A plant cultivated in gardens. Part used; the leaves. Sens. prop. smell, aromatic; taste, bitterish, roughish, moderately warm and aromatic. Med. virt. tonic, stomachic. Mode of exhib. infusion and a distilled water; also a spirit, and an essential oil.

Mulberry.—Of this well known, cooling, antiseptic fruit, a syrup is prepared, to sweeten diluting liquids in bilious and inflammatory disorders.

Musk.—A gummy substance, found in a bag, situated under the belly of an animal of the deer kind, in Thibet and Tartary. Sens. prop. smell, fragrant, extremely powerful, and diffusive; taste, bitterish, rather acid. Med. virt. stimulant, antispasmodic. Mode of exhib. bolus, watery mixture.

Mustard.—The seeds are stimulant and very pungent. Mode of exhib. in substance; a tablespoonful, with a cupful of an infusion of broom tops, is laxative and diuretic. Infused in wine or water, with fresh shaved horseradish root, it is useful in scorbutic and paralytic disorders. Infused in water, and taken in large doses, it proves emetic. The powder is frequently made into a paste, or soft poultice, with vinegar and bread crumb, and applied to benumbed limbs; to pained parts in chronic rheumatism; or to the soles of the feet in the low state of fevers.

Myrrh.—A gummy resinous concrete, brought from the East Indies. Sens. prop. smell, strong, and not ungrateful; taste, very bitter and pungent. Med. virt. tonic, heating, stimulant, antiseptic. Mode of exhib. powder, pill, watery emulsion, spirituous tincture.

Nettle, common stinging.—The herb of this well known plant, is herbaceous, subsaline. Med. virt. aperient, diuretic, and cooling. Mode of exhib. decoction or infusion. The expressed juice, in doses from two to three ounces, is useful in inward bleedings and nephritic complaints. Externally, they are employed to whip palsied limbs, which they have sometimes restored to sensibility and motion.

Nutmegs.—The kernel of the root of an East India tree. Sens. prop. smell, aromatic; taste, moderately warm, and unctuous. Med. virt. stimulant. Mode of exhib. powder, spirituous distilled water, and an essential oil.

Oak, the bark.—Astringent. Med. virt. tonic. Mode of exhib. decoction, chiefly for external application; slight intermittents, however, have been cured by giving the powder of this bark in doses of twenty to thirty grains every three hours, with a cupful of the infusion of chamomile flowers. It may be given in jelly, Port wine, or marmelade.

Olive Oil, is procured by expression from the fruit of a tree growing in the warmer climates. Sens. prop. inodorous, insipid, unctuous. Med. virt. obtunding, emollient. Mode of exhib. internally, by itself, or united to watery liquids by mucilaginous matters, or volatile alkalis. Externally, in liniments, ointments, and plasters.

- Opium*.—The concrete gummy resinous juice of the white poppy, collected in the warm countries of the east. Sens. prop. smell, disagreeable; taste, bitter, somewhat acrid. Med. virt. narcotic, in large doses, sedative in smaller. Mode of exhib. pill, tincture, solution.
- Orange, Seville*.—A well known fruit growing in Spain and Portugal. Part used; the rind and pulp. Sens. prop. rind, bitter and aromatic; pulp, acid. Med. virt. rind, tonic; pulp, cooling and antiseptic. Mode of exhib. infusion of the rind; juice of the pulp in febrifuge drinks. An elegant stomachic conserve, tincture, and syrup, are formed of the rind; useful to cool phlegmatic habits.
- Parsley*.—An umbelliferous plant, cultivated in gardens. Part used; the seed and roots. Sens. prop. roots, sweet, and lightly warm; seeds, aromatic and bitter. Med. virt. stimulant, mildly diuretic. Mode of exhib. the root in decoction, against jaundice, gravel, and suppression of urine.
- Pennyroyal*.—A plant cultivated in gardens. The leaves smell strong, not agreeable; taste, warm and pungent. Med. virt. stimulant, aromatic. Mode of exhib. in infusion, as tea, against uterine obstructions. A water is distilled from it, and an essential oil.
- Pepper, black*.—The fruit of a trailing shrub, growing in the East Indies, of a heating and stimulating quality.
- Pimento*.—The dry berry of a tree growing in Jamaica. Sens. prop. smell, grateful and aromatic; taste, moderately warm. Med. virt. stimulant. Mode of exhib. a water distilled from it, and an essential oil; the latter sinks in water; the former serves most of the purposes of waters drawn from more costly spices.
- Pink, Carolina*.—This root is celebrated for the expulsion of worms from the alimentary canal; it sometimes acts unpleasantly on the nervous system. Some order it in doses of ten or fifteen grains, while others advise it in doses of a drachm, alleging, that bad effects more readily happen from small doses, as the large dose generally purges or pukes; hence we do not recommend this medicine in domestic practice.
- Pitch, Burgundy*.—The resin exuding from the common fir tree, softened in warm water, and strained. Med. virt. stimulant. Mode of exhib. in plasters and ointments.
- Pomegranate Tree*.—A prickly tree, or shrub, growing in the south of Europe. Part used; the flowers, and rind of the fruit. Sens. prop. flowers and rind, astringent; fruit, tart, and roughish. Med. virt. tonic, cooling. Mode of exhib. juice of the fruit; infusion and decoction of the flowers and rind, against prolapsed rectum and uterus. Sydenham directs the application of a fomentation to be made of an ounce of the rind of pomegranate bruised, with two pints of decoction of oak bark and half a pint of red wine. In colliquative diarrhœas, accompanying hectic fever, Dr. Mead directed the following astringent and nutritive decoction: Take of dried red rose leaves, balustines, pomegranate rind, and cinnamon, of each one drachm; boil in a pint of cow's milk, adding little by little, during the boiling, a pint of water; keep it on the fire till the whole is reduced to one pint; then strain off, and sweeten with a little sugar. To be taken in repeated draughts in the course of a day.

- Poppy, Red, or Corn Rose.*—The flowers are very common in corn fields; they are weakly sedative; a syrup is prepared from them. Its virtues are considerable.
- Poppy, White.*—A plant cultivated in gardens. The heads, or seed vessels, afford a bitter, milky juice, which, in a concrete form, is opium. Med. virt. anodyne, sedative. Of the expressed decoction, by the addition of sugar, an useful syrup is formed. Of the decoction, strongly expressed and evaporated, an extract is formed, more pure than the opium that is imported.
- Prunes, Common, or French Prunes.*—The fruit of a kind of garden plum tree, growing in France. Med. virt. laxative, cooling; eaten crude or stewed.
- Quassia Root.*—The woody root of a tree growing in Surinam. Sens. prop. intensely bitter. Med. virt. tonic, stomachic, a corrector of putrid bile. Mode of exhib. infusion, extract. It is much used in this country as a succedaneum for hops, to give bitterness to malt liquor, though it deservedly subjects those brewers who employ it, to a very heavy penalty. Strong bitters are very properly exhibited as medicines in intermittent and bilious fevers, in some stomachic complaints, in cachexy, dropsy, and gout; but there is sufficient evidence to prove, that the long continued or habitual use of this class of remedies, has been productive of incalculable mischief.
- Quince.*—The fruit of a tree cultivated in gardens. The apple of the quince yields an austere and acid juice. A pleasant, astringent marmalade is prepared from it, which is deemed a preservative against sea scurvy, and covers well the bitter taste of the cinchona bark, which is disagreeable to delicate patients.
- Raisins.*—Grapes dried by the heat of the sun; they are imported from Spain and the Levant. This fruit is sweet, aperient, and obdusting. It is eaten crude, and is an ingredient in pectoral decoctions.
- Raspberry.*—The fruit, acid and sweet; cooling, antiseptic.
- Rattlesnake Root, or Seneca,* is a perennial plant, which grows wild in Virginia and Pennsylvania. Sens. prop. acid, hot, pungent. It has no smell. Med. virt. diuretic, expectorant, stimulant. The Senegaro Indians are said to prevent the fatal effects of the bite of the rattlesnake by giving it internally, and by applying it externally to the wound. The usual dose of seneca root, is from one to two scruples of the powder; or two or three tablespoonfuls of a decoction, prepared by boiling one ounce of the root in a pint and a half of water till it is reduced to a pint. This is prescribed in pleuritic, rheumatic, and dropsical affections.
- Rhubarb.*—The root of this docklike plant tastes bitterish, somewhat acid and astringent. Med. virt. tonic, mildly cathartic. Mode of exhib. powder, infusion, tincture.
- Rose, Damask.*—The flowers of a shrub cultivated in gardens. Sens. prop. very fragrant, bitterish. Med. virt. laxative, odoriferous. The shops keep a syrup, a honey, and a simple distilled water, of roses.
- Rose, Red.*—The flowers of a shrub cultivated in gardens. Med. virt. tonic. From these a honey, syrup, and conserve, are prepared.

- Rosemary*.—A shrubby plant, with labiated flowers, growing in gardens. Part used; the flowering tops. Sens. prop. smell, grateful; taste, warm and pungent. Med. virt. stimulant. Mode of exhib. infusion, as tea, against violent headaches and other nervous complaints. An essential oil, and the spirit of rosemary are distilled from the tops, which are the principal ingredient in what has generally been called Hungary water.
- Rosin, Yellow*.—Baked turpentine. It is used in forming various ointments and plasters.
- Rue*.—A shrubby plant, cultivated in gardens. Part used; the leaves. Sens. prop. smell, strong and ungrateful; taste, penetrating and bitterish. Med. virt. antispasmodic, stimulant, anthelmintic. Mode of exhib. powder, infusion as tea, attenuant, deobstruent, for the impeded discharges of hysterical females. The extract may be given in doses of five to twenty grains, in the form of pills. The juice or infusion may be exhibited in a lavement against worms.
- Saffron*.—The filaments of the pistil of a bulbous rooted plant, cultivated in the fields. Sens. prop. smell, aromatic, very diffusive; taste, warm and bitterish; colour, high orange. Med. virt. heating, cordial, stimulant. An elegant syrup is prepared from saffron, and it is an ingredient in several medicinal preparations, not so much on account of any singular virtues it is now supposed to possess, as for the elegant colour it imparts. Externally, saffron is often mixed with emollient and resolvent cataplasms.
- Sage*.—The leaves of a perennial plant, growing in our gardens. It is aromatic and bitterish. Med. virt. tonic, sudorific. Watery infusions of the leaves, mingled with a little lemon or orange juice, proves a useful diluent drink in febrile disorders.
- Sarsaparilla*.—A climbing plant, growing in the Spanish West Indies. Part used; the root, and its bark. Sens. prop. smell, fragrant; taste, subastringent and lightly warm. Med. virt. tonic, obtunding. Mode of exhib. powder, decoction.
- Sassafras*.—A large tree, growing in the warmer parts of America. The smell of this wood is fragrant; taste, lightly warm. It is employed in stimulating and sudorific decoctions for scorbutic and venereal impurities.
- Savin*.—The leaves of an evergreen prickly shrub, growing in gardens. Sens. prop. smell, strong and disagreeable; taste, hot, acrid, bitterish. Med. virt. stimulant, diuretic. A scruple to half a drachm of the powdered leaves, has been given twice a day, with success, to athletic women, in cases of obstructed menstruation. The fresh leaves of savin may be given in the form of a conserve, or infused as tea, against worms and gouty affections; or the extract, in the form of pills, may be given in doses from ten to thirty grains, or twenty to thirty drops of the compound tincture in a cupful of pennyroyal tea. In plethoric habits, venesection should precede the use of savin. Externally, the leaves are applied in the form of powder, or strong infusion, to warts, carious bones, old ulcers, &c.
- Scurvy Grass*.—Garden scurvy grass is a plant of the cruciform siliquous class, growing in maritime situations, and cultivated in gardens. Part used; the herb. Sens. prop. acrid and saline. Med.

virt. aperient, stimulant, antiscorbutic. It is eaten crude, and the juice, which may be taken in doses of an ounce or two, is used with good effect, joined with the juices (a tablespoonful or two of each) of brook lime, water cresses, and Seville oranges. The fresh leaves of scurvy grass, beaten into a conserve with thrice their weight of fine sugar, may be kept in a close vessel, without any diminution of their virtue, for years. It may be taken in doses of two drachms to half an ounce, twice or thrice a day.

Senna.—A pod bearing papilionaceous plant, growing in Egypt, and the east. Part used; the leaves. Sens. prop. smell, ungrateful; taste, nauseous and bitterish. Med. virt. purgative. Mode of exhib. extract, powder, infusion, tincture. To cover the taste of senna, coriander seeds are employed; but to prevent its griping, the warmer aromatics, such as cardamom seeds, or ginger, are more effectual. The dose of the extract is from half a drachm to two drachms; it may be given in the form of pills, but the extract is a weak cathartic, and occasions more griping pain in the bowels, unless joined with an aromatic, than the tincture drawn from the leaves, probably because that is mingled with carminatives.

Snakeroot, Virginian.—A plant growing in North America. Part used; the root. Sens. prop. smell, aromatic; taste, warm and bitterish. Med. virt. stimulant, tonic, antiseptic diaphoretic. Mode of exhib. powder, infusion, tincture. Snakeroot was at first recommended as a medicine of extraordinary power in counteracting the poisonous effects of the bites of serpents. Both this and *contrayerva* are found very useful medicines in typhous fever, and in putrid diseases; also in eruptive fevers, to determine the disease to the skin and promote the eruptive process. In cases of gangrene, and in obstinate intermittent fevers, the snakeroot is an excellent auxiliary to the cinchona bark. Externally, it is used as a gargle in the putrid sore throat.

Sorrel, Common.—An herbaceous plant, growing wild, and cultivated in gardens. The acidulous herb is cooling, aperient, antiscorbutic. It is eaten crude, and a decoction of it in whey is refrigerant in febrile heats, and cases of bilious and scorbutic acrimony.

Sorrel, Wood.—Wood sorrel is a small perennial plant, growing wild. The leaves are gratefully acid, cooling, and antiseptic; they are eaten crude; sometimes the expressed juice is taken as a tonic and antiscorbutic. The London College of Physicians order a conserve of wood sorrel to be kept in the apothecaries' shops, which is given to quench thirst, and to cool the mouth, fauces, and primæ viæ, in bilious remitting fevers.

Spermaceti is an unctuous, flaky substance, of a white colour, and a butyraceous taste, without any remarkable smell; it is prepared from the fat of the brain of a species of whale. Sens. prop. bland, insipid. Med. virt. obtunding, emollient. Mode of exhib. in substance, combined with watery liquors by means of almonds, gum, or yolk of egg, in pectoral mixtures, or emulsions. Externally, as it readily dissolves in oils and unctuous substances, an elegant cerate and an ointment are formed, which are often used for healing blisters, burns, excoriations of the skin, &c.

Sponge.—A substance adhering to rocks in the sea; the habitation of certain marine insects. Sens. prop. soft, light, porous, elastic, affording a marine sodalike salt, when boiled, or calcined. Med. virt. internally, stimulant and resolvent; externally, proper for dilating sinuses by its swelling, and for stopping hemorrhages by its adhesion. Burned in a close vessel till it becomes black and friable, this is used in powder, with some suitable syrup, or conserve, into an electuary; or it may be formed into troches. Burnt sponge may be given in doses of a scruple, or upwards, against scrofulous indurations and cutaneous foulnesses.

Squill, or Sea Onion.—A bulbous rooted plant, growing on the sandy shores of Spain, Portugal, and Syria. Part used; the root. Sens. prop. nearly inodorous; taste, nauseous, bitter, and acrid. Med. virt. stimulant, emetic, and diuretic. Mode of exhib. the dry root powdered, or in the form of pills, may be given as an alterative; and to promote expectoration, from one, three, to six grains. From ten grains to a scruple, as an emetic, in pituitous asthma. The London College of Physicians direct the apothecaries under their jurisdiction, to keep a conserve of squills, which may be taken in doses of half a drachm to a drachm. Honey of squills; dose, half a drachm to two drachms. Squill pills; dose, ten grains to thirty. Oxymel of squills; dose, half a drachm to two drachms. Tincture of squills; dose, fifteen, thirty, to sixty drops. In doses of one drachm and a half to three or four drachms, it proves emetic. Vinegar of squills; in the dose of twelve drops to thirty or sixty; alterative, cooling, expectorant. Sometimes two drachms, but more frequently half an ounce to an ounce, of that preparation acts as an emetic.

Starch is prepared from wheat, in which it forms an important alimentary substance. Its demulcent property occasions it to be formed into an officinal lozenge, which may be taken at discretion for allaying the tickling in the throat, which provokes coughing; and a mucilage is prepared from starch, that often produces excellent effects, both taken in the mouth, and injected as an enema, in diarrhoea and dysenteries, induced by irritation of the intestines.

Tamarind.—The pod of a large tree, growing in the East and West Indies. Part used; the pulp about the pods. Sens. prop. mildly acid. Med. virt. cooling, laxative. Mode of exhib. eaten preserved with sugar, decoction, infusion, to quench thirst, and to allay immoderate heat in burning fevers, bilious diarrhoeas, and inflammations of the stomach, liver, and intestines. When the pulp of the tamarind is exhibited merely as a laxative, it may be of use to join it with manna. Three drachms of the former, and two of the latter, are usually sufficient to open the body; but to operate moderately as a cathartic, twice or three times as much of both articles are required.

Tansy.—This plant grows wild by road sides, and the borders of fields. It is frequently cultivated in gardens, both for culinary and medicinal uses. Part used; the leaves and flowers. Sens. prop. smell, strong and aromatic; taste, bitter. Med. virt. tonic, stomachic, anthelmintic, and emmenagogue. Mode of exhib. powder, half a drachm to a drachm for a dose, against flatulency and

worms. From two pugils to a handful of the leaves, infused in wine, promotes the menses ; but they are more commonly taken in infusion, and drank as tea. Administered in this way, it is said to be a preventive of the return of the gout.

Tar.—A thick, resinous fluid, melted out of old fir and pine trees. Sens. prop. empyreumatic, bitter, pungent. Med. virt. stimulant, diuretic. Mode of exhib. in pills ; also in infusion, called *Tar Water*, inserted in the Appendix. Externally, tar is employed as an ointment in scald heads, and some cutaneous diseases.

Tar, Fossil, or Barbadoes Tar.—A kind of fluid bitumen; found in the West Indies. Sens. prop. smell, disagreeable ; taste, pungent. Med. virt. stimulant, sudorific, pectoral. Mode of exhib. chiefly externally, in liniments, as a discutient, and for preventing paralytic disorders.

Thoroughwort ; *Eupatorium Perfoliatum*. Boneset.—The leaves and flowers. There are numerous species of eupatorium, which are natives of our soil. This species has long been familiarly known throughout the United States by the various names of thoroughwort, boneset, Indian sage, crosswort, vegetable antimony, &c. It grows abundantly in low meadows and marshy situations. The stem is erect, and rises from two to four or five feet, perforating the leaves at each joint, and is hairy or woolly, and branches only at the top. The leaves are horizontal, serrated and rough, from three to four inches long, and about one inch broad at their base, gradually lessening to a very acute point, of a dark green, and covered with short hairs. The flowers are white, and appear in July and August, forming a corymbus at the termination of the branches. The medicinal properties of this very valuable plant have been accurately investigated by Dr. Andrew Anderson, of New York.* His investigation is judicious, and his experiments executed in a manner which merits commendation. He has ascertained its chemical properties by accurate analysis, and its medicinal virtues by practical experiments. Hence he deems it warrantable to conclude, that it possesses many properties similar to those which characterize the *cinchona officinalis*, the *anthemis nobilis*, and other valuable articles of the *materia medica* ; but that these virtues reside in greatest quantity in the *leaves*.

As preparations of this plant, the author recommends the decoction of the flowers and of the leaves ; infusions of the same parts ; the leaves in substance pulverized ; and a tincture of the flowers and of the leaves, prepared with proof spirit. This last form is the most pleasant and convenient, and, at the same time, the most powerful ; for proof spirit was ascertained to be the best menstruum. Our author does not hesitate to assert, that the chemical properties of *E. Perfoliatum*, as deduced from experiment, are in very many respects exactly similar to the Peruvian bark ; and that for its active medicinal virtues, particularly as a sudorific and as a tonic, it will not suffer by comparison with any of the articles drawn from the vegetable kingdom. In addition to his own opportunities of

* See his Inaugural Dissertation, published in New York, 1813.

witnessing the employment of this plant, in different diseases in the New York almshouse, he appeals to the observations and experience of several distinguished practitioners, particularly of Dr. Barton and Dr. Hosack, for the importance and efficacy of this remedy in the treatment of most febrile disorders, particularly in intermitting and remitting fevers, yellow fever, and in other disorders of specific contagion; in many cutaneous affections, and in diseases of general debility. It may however be observed, that if it be exhibited as a warm decoction, it often proves emetic, and acts especially on the skin, in producing diaphoresis: if in the form of cold infusion or decoction, or in substance, it acts as a powerful tonic. Dr. Anderson proceeds to detail six cases of intermittent fever in which, after a single evacuant, the thoroughwort effected radical cures; and adds, that the same remedy was administered in almost all the instances of intermittents that occurred in the New York almshouse in the year 1812, to the exclusion of the Peruvian bark, and with uniform success. It was given either in decoction, or in powder, from twenty to thirty grains, every second hour during the intermission. In remitting fever, as a sudorific, it produced the most salutary effects; and in those cases where tonics were indicated it proved no less advantageous. In the treatment of yellow fever he adduces the high authority of Dr. Hosack and Dr. Bard, who, after proper evacuations, placed almost exclusive dependence on sudorifics; and, among this class of medicines, the eupatorium, administered in the form of decoction, was deservedly considered of great value. The disease called by some the *petechial* or *spotted fever*, and by others the *malignant pleurisy*, or *typhoid peripneumony*, has been more successfully treated by the class of remedies denominated sudorifics than by any other; and in many cases of this epidemic, which occurred in the city of New York, in the winter of 1812-13, after the proper evacuations had been employed, the eupatorium was resorted to, and its sudorific, its tonic and its cordial properties were clearly demonstrated, and much benefit was derived from its use. In some obstinate cutaneous diseases, according to Dr. Barton, eupatorium has produced very beneficial effects. During the author's attendance in the New York almshouse, in the year 1812, very liberal recourse was had to this remedy in diseases arising from general debility. In anasarctous affections of the extremities, and in ascites, when it may be considered as a disease of debility, the alcoholic tincture of eupatorium may be safely recommended as an excellent tonic; and in addition to its tonic effects, the properties of a diuretic render the employment of it still more advantageous in cases of this description.

An infusion of thoroughwort has long been esteemed as an efficacious remedy in bilious colic accompanied by obstinate constipation. It is directed to the quantity of a teacupful every half hour till it produce a cathartic effect. In a similar manner it has been successfully prescribed in dysentery with the view of both its cathartic and diaphoretic properties. About two quarts of a strong infusion of thoroughwort, with the addition of one ounce of aloes, form an excellent purgative for horses and cattle.

Thuch. Disp.

Tragacanth, Gum, is the produce of a very thorny shrub, which grows in the island of Candia, and other places in the Levant. It is without taste or smell, and much more glutinous than gum arabic. On account of its mucilaginous quality, gum tragacanth is employed as an ingredient in forming pectoral troches; and the compound powder of tragacanth is of service in catarrhal defluxions and diarrhœas, by sheathing the throat, stomach, and intestines, against acrimonious humors. The dose is a scruple to two drachms.

Turpentine, Common, is the native resinous juice of various trees, particularly of the pine and fir kind. Chio, or Cyprus turpentine, is procured from a berry bearing tree, or shrub, growing in the Levant. Sens. prop. smell, disagreeable in the common, fragrant in the Chio; taste of both is hot, pungent, and bitter. Med. virt. stimulant, tonic, diuretic. Mode of exhib. in pills, or bolus, from a scruple to a drachm and a half. The common is rarely given internally. Chio turpentine may be given in a fluid state, blended with watery liquors, by yelk of egg or mucilage. The rectified oil is extremely powerful, stimulating, detergent, diuretic, and sudorific, requiring the utmost caution in its exhibition; blended with honey, it may be given to adults in doses of six, and gradually increased to twelve drops. Externally, oil of turpentine is with some practitioners a favorite application in cases of burns and scalds. Turpentine is an ingredient in ointments and plasters.

Uva Ursi, or Bear Berries.—An evergreen trailing plant, growing on high mountains. Part used; the leaves. Sens. prop. bitterish, and subastringent. Med. virt. tonic, antinephritic. Mode of exhib. powder, in calculus, and most disorders of the urinary passages.

Valerian, Wild.—A perennial plant, with aggregated flowers, growing both in dry and moist situations; in the former, it is the most powerful as a medicine. Part used; the root. Sens. prop. smell, strong and ungrateful; taste, warm, bitterish, and subacid. Med. virt. tonic, anthelmintic, antispasmodic. Mode of exhib. powder, infusion, tincture. The powder (which has been highly recommended, also, for dimness of sight) may be given in doses of a scruple to two drachms; an infusion, as tea, with one or two drachms, may be taken, with the addition of a little mace, which conceals the unpleasant flavor of valerian.

Water Cress.—The leaves of this plant, of the cruciform class, growing common in wet situations, have a pungent taste, and penetrating smell. They are stimulant and antiseptic, when eaten crude, or the expressed juice may be taken in doses of half an ounce to two ounces.

Wild Cherry Tree; Prunus Cerasus.—The bark of the tree and root. The common wild cherry tree is often found in woods and hedges, and is associated with the trees of the forest, growing to the height of forty or more feet, and of a very large size. The bark of the wild cherry tree is powerfully tonic, and has been frequently substituted for the Peruvian bark, with great success. It is slightly narcotic, and commonly produces drowsiness in those who take it. From the experiments of Mr. C. Morris, of Virginia, (Inaug. Diss. 1812, Phila.) it appeared, that the bark of the root was more pow-

erful than the bark of the trunk. It has been very useful in dyspepsia and in consumption of the lungs. The Indians, it is said, use the bark in the cure of syphilis. Very excellent effects have been produced by washing ill conditioned ulcers with a decoction of the bark, and the same has proved anthelmintic. The leaves of this tree are poisonous to certain animals. While this valuable tree abounds in the United States, we act unwisely, says Dr. Mease, in sending thousands of dollars out of the country for the Peruvian bark.

Cherries that are subacid are, according to Dr. Willich, an excellent article of domestic medicine in the true scurvy, in putrid fevers, and the dysentery; as likewise to those persons, who are liable to obstructions in the alimentary canal. Nor will they be found less salutary to constitutions whose bile is vitiated, whose stomach is troubled with foul eructations, and who are afflicted with an offensive breath: all such persons should eat them freely, particularly on an empty stomach. For similar reasons, *dried cherries* form an excellent article of diet, in acute and inflammatory disorders: where they should be used both in substance and in decoctions, which are equally cooling and antiseptic. *Thach. Disp.*

Willow; Salix Latifolia.—Broad leaved willow. The bark. This possesses greater medicinal properties than any of the other species of salix; and is now substituted by many British physicians for the Peruvian bark. Three British pamphlets on this subject have been published within a few years; the last, by Dr. Wilkinson, (1803,) is replete with encomiums on the remedy in question. This species of salix may be distinguished by the shape of its leaves from all others, except the salix pentandra, or bay leaved willow. But the leaves of the latter are smooth and shining, and of a deeper green; nor have they the downy appearance on the under surface, which is so remarkable in the *salix caprea*, or *latifolia*. It is found in woods and hedges, on hilly situations, and delights in cold, clayey, moist ground. The most proper time to gather the bark, is in May or June. It should be cut in small pieces, and dried in the shade. This bark is very astringent to the taste, and somewhat bitter, but it loses the latter quality when dry. Dr. Wilkinson directs one ounce and a half of the coarse powder of the bark to be infused in one quart of water for six hours; then to boil it over a gentle fire for a quarter of an hour, and strain for use: of this the ordinary dose is two or three large spoonfuls, three or four times a day; but in the ague and fever, one or two ounces may be given every third hour, in the interval of the fit. The strong decoction of this bark resembles Port wine in colour, for which, by several who have seen it in vials, it has been mistaken.

Dr. Wilkinson relates sixteen cases of disease, in which this bark was employed with decided advantage, and from which, he does not hesitate to assign to it virtues greatly superior to those of the cinchona: in particular, he relates a case of extreme emaciation from an ulcerated foot, which was perfectly cured, after having resisted the continued use of Peruvian bark, and the exertion of the physicians of two public charities. It is doubtless a remedy of

considerable efficacy, and is strongly recommended on account of its cheapness, and the facility of procuring it. It appears to be useful in most cases where the cinchona is usually resorted to.

The attention of medical men should be directed to the inquiry, whether the *salix latifolia* may be found in the United States, as it promises to afford a valuable substitute for the *cinchona*; the price of which has become exorbitant, and its quality greatly impaired by base and fraudulent adulterations. *Thach. Disp.*

Winter Green; *Pyrola Umbellata*.—The whole plant. Among the recent acquisitions to our materia medica, is *pyrola umbellata*, appearing first in the medical botany, by Professor Bigelow, and since introduced into our national pharmacopœia. This vegetable inhabits all latitudes in the United States, growing in shady woods, where it is protected from the sun, and flourishing with undiminished verdure, even when covered with the snow of winter. Six species of *pyrola* are natives of our soil, but the *umbellata* is the one used in medicine. Under the appellations *winter green* and *pipsissewa*, the newspapers have teemed with attestations of its virtues as a remedy in various diseases. These testimonies, although in general from persons out of the profession, have, by more correct observation, and by medical authority, been, in a considerable degree, corroborated. It is found in every forest, closely intermingled with another well known evergreen, the boxberry, or chequerberry, and often surrounded by the *uva ursi*, to which it appears to be allied. The root is creeping, sending up stems at various distances. Stems ascending, hard and woody at base, somewhat angular, and marked with the scars of the former leaves. The leaves grow mostly in bunches or whorls, lanceolate, somewhat wedge-shaped, sharply serrate, decurrent on the petiole, smooth, firm, and coriaceous. The flowers appear in June and July, in an imperfect umbel, or rather corymb, of from three to six, variegated with purple and white, drooping.

The *pyrola* was employed with considerable success during the revolutionary war, in typhus, and was viewed as stomachic, tonic, and astringent. The bruised leaves, moistened with brandy, and applied to the skin, produced blisters. The late Professor Barton found it to possess antilithic properties, and not essentially different from *uva ursi*. Professor Smith, of New Haven, assures me, that in one case of inveterate cancer, he employed the *pyrola* both internally and externally with such favorable effects, as convinced him, that it possessed some specific virtues as a remedy in this disease. I am informed by Dr. Miller, an experienced surgeon of Franklin, that he is in the practice of applying, by way of decoction and cataplasm, the leaves of this plant to chronic, indurated tumors, which, in many instances, have been dispersed by its stimulant and vesicating effects. Professor Bigelow has made this article a subject of particular investigation and inquiry; and, from his medical botany, I quote the following, as being worthy of full confidence: "The *pyrola umbellata*, though scarcely known as a medicine until within a few years past, has at the present day acquired a reputation of considerable extent in the treatment of va-

rious diseases. Its popular celebrity seems to have originated in its application to the treatment of fever and rheumatism; but the attention of physicians has been chiefly drawn towards its use in other complaints. The instances in which this plant has received favorable testimonies on medical authority, of its successful use, both in America and Europe, are principally the following: 1. As a palliative in strangury and nephritis. 2. As a diuretic in dropsy. 3. As an external stimulant, susceptible of useful application to various cases. In the first of these cases, the pyrola is entitled to attention and confidence. Some practitioners in this country have employed it with advantage in the same cases in which *arbutus uva ursi* is recommended.* Dr. Wolf, the German writer lately cited, has reported a number of cases of ischuria and dysuria, arising from various causes, in which the pyrola, given in infusion, produced the most evident relief, and took precedence of a variety of remedies which had been tried. His method of administering it was to give a tablespoonful of a strong infusion, with a little syrup, every hour. In all the cases he has detailed, small as the dose was, it gave relief in a very short time. In one case its effect was so distinctly marked, that the disease returned whenever the medicine was omitted, and was removed on resuming its use. A tonic operation attended its other effects, so that the appetite was improved and digestion promoted during the period of its employment. The diuretic properties of the pyrola umbellata, seem to have been fully illustrated by Dr. W. Somerville, in a paper on this vegetable, published in the fifth volume of the London Medicochirurgical Transactions. The facts presented by this physician afford satisfactory evidence of the power of this medicine to promote the renal excretion, and to afford relief to patients afflicted with dropsy in its various forms. The most distinguished case presented by him, is that of Sir James Craig, the British governor in Canada, who was laboring under a general dropsy, which in its progress had assumed the forms of hydrothorax, anasarca, and ascites, and which was combined with different organic diseases, especially of the liver. After having tried with little or temporary success, almost every variety of diuretic and cathartic medicines, and submitted twice to the operation of tapping, the patient had recourse to a strong infusion of the pyrola, in the quantity of a pint every twentyfour hours. Although the case was altogether an unpromising one, yet the plant gave relief, not only in the first, but in the subsequent instances of its use. It increased the urinal discharge, and, at the same time, produced an augmentation of strength, and an invigorated appetite. Several other cases of dropsy are detailed in Dr. Somerville's paper, in which the pyrola was administered by himself and by other practitioners with decided advantage. Dr. Satterly and Dr. Marcet are among those, who have added their observations to the testimonies in its favor. Dr. Somerville found his patients to remark, that an agreeable sensation was perceived in the stomach soon after taking the pyrola, and that this

* See Dr. Mitchell's Inaugural Dissertation, Philadelphia, 1803.

was followed in some instances by an extraordinary increase of appetite. He considers it as having in this respect a great advantage over other diuretics, none of which are agreeable to the stomach, and most of them very offensive to it. He further states, that no circumstance had occurred within his own experience or information, to forbid its use in any form, or to limit the dose. Dr. Wolf has given one very satisfactory case of the utility of our plant in ascites. He also found it to alleviate altogether the ardor urinæ attendant on gonorrhœa. Such are the important facts, which to my knowledge have been published respecting the internal use of the *pyrola umbellata*. I have administered this plant on various occasions, and attended to its mode of operation. In a number of dropsical cases, when first given, it made a distinct and evident impression on the disease, communicating an increased activity to the absorbents, followed by a great augmentation of the excretion from the kidneys. The benefit, however, with me has been in most instances temporary, and it was found better to omit the medicine for a time, and to resume it afresh, than to continue it until the system had become insensible to its stimulus. After suspending it for a week or two, the same distinct operation took place on returning to its use, as had been manifested in the first instance. It proved in almost every instance, a very acceptable medicine to the patient, and was preferred both for its sensible qualities and its effects on the stomach, to other diuretics and alteratives which had been prescribed. The *pyrola* has been considerably employed as an external application in tumors and ulcers of various descriptions. It first acquired notice in consequence of some newspaper attestations of its efficacy in the cure of cancer. Those persons, who know how seldom genuine cancers occur in comparison with reputed ones, will be more ready to allow it the character of curing ulcerous, than really cancerous, affections. There are undoubtedly many ulcers, and those frequently of a malignant kind, which are benefited by antiseptic stimulants; and to such the *pyrola* may be useful. But of its efficacy in real cancer we require more evidence than is at present possessed, before we ascribe to it the power of controlling so formidable a malady." The *pyrola* is one, and probably the principal article in a composition possessed by certain Indians as a remedy for scrofula. In their hands it has obtained very considerable reputation for having effected radical cures; their mode of administration is to macerate the leaves and roots for some time in cold water, and to give a teacupful three times in a day. Of the decoction or infusion, a pint or more may be given in a day. The extract has been administered to the extent of five scruples in twentyfour hours, in the form of pills.

Thach. Disp.

Wormseed.—Small, light seeds, the produce of a species of wormwood. They are brought from the Levant. Sens. prop. smell, strong and ungrateful; taste, very bitter, and subacid. Med. virt. anthelminthic. Mode of exhib. in substance. To adults, the dose is from a drachm to a drachm and a half, twice a day. Young patients may have five grains to a scruple.

Wormwood, Common.—A compound flowered plant, growing wild, and cultivated in gardens. Part used; the leaves and flowering tops. Sens. prop. smell, strong and ungrateful; taste, extremely bitter, nauseous. Med. virt. tonic, stimulant, antispasmodic, antiseptic, anthelmintic. Mode of exhib. infusion, as a strengthening bitter, to cure agues, and in worm cases. Wormwood was formerly much used as a bitter against weakness of the stomach, and dyspeptic complaints, in medicated wines and ales. The juice may be exhibited in doses of one to four tablespoonfuls; i. e. half an ounce to two ounces. Externally, wormwood is employed in warm, discutient, antiseptic fomentations.

Yeast. Barm. Brewer's Foam.—Yeast for medicinal use may be procured from the brewer's vats, or may be prepared in either of the following methods:

Thicken two quarts of water with about three or four spoonfuls of rye meal or fine flour; boil for half an hour; sweeten with half a pound of brown sugar; when near cold, put into it four spoonfuls of fresh yeast, shake it well together in a jug, and let it stand one day to ferment near the fire without being covered. Pour off the thin liquor on the top, and cork up the remainder for use.

Or boil one pound of clean washed potatoes to a mash, when half cold, add a cupful of yeast and mix it well. It will be ready for use in two or three hours.

Or, take one pint of yeast, and add half a pint of molasses and one quart of lukewarm water. Stir these well together, and let it stand in a moderately warm place till active fermentation become evident; then it may be kept in a cool place for the patient's use.

In warm weather it should be prepared fresh every day.

Yeast has acquired considerable celebrity for its virtues in the cure of putrid fever and malignant ulcerous sore throat. It is to be exhibited in doses of two spoonfuls every two or three hours; should it purge or gripe, the dose must be diminished. It is also employed as an external application to dangerous ulcers. *Thach. Disp.*

Zedoury.—A root imported from the East Indies. Sens. prop. smell, aromatic; taste, warm and bitterish. Med. virt. tonic, carminative, stimulant, stomachic. Mode of exhib. powder, from ten grains to half a drachm; or an aqueous infusion, as tea, in cases of want of appetite, unattended with loathing of food, and spasmodic colic.

GLOSSARY.

ALTHOUGH terms of art have been sedulously avoided in the composition of this work, and in the various additions that have been subjoined, it is impossible entirely to banish technical phrases when writing on medicine; and, as several persons expressed their opinion, that a Glossary would render the book more generally intelligible, the following concise explanation of the few terms of art that occur, is added, in compliance with their sentiments, and to fulfil the original intention of this treatise, by rendering it intelligible and useful to all ranks and classes of the community.

- Abdomen.* The belly, or the lower belly.
- Abscess.* A collection of pus or matter, preceded by inflammation and swelling.
- Absorbents.* Glands, or vessels, that convey the nourishment from the intestines, and the secreted fluids from the various cavities, into the mass of blood.
- Absorbents.* Medicines which have no acrimony in themselves, and which destroy acidity in the stomach and bowels.
- Acescent.* Sour; sharp; tending to sourness.
- Acrimony.* Corrosive sharpness.
- Acute.* A disease, the symptoms of which are violent, and tend to a speedy termination, is called acute.
- Adult.* Of mature age.
- Adust.* Dry, warm.
- Alkali.* Is an incombustible substance, soluble in water. Potash, and salt of tartar, are alkaline salts.
- Alvine.* Of or relating to the lower cavity of the belly.
- Anasarca.* A species of dropsy in which the thinner parts of the blood are generally effused and retained between the skin and the flesh.
- Anodyne.* A medicine that relieves pain.
- Anorexia.* A want of appetite.
- Anthelminthic.* A medicine to destroy worms.
- Antiemetics.* Medicines which stop vomiting.
- Antiseptic.* Preventive of putrefaction.
- Antispasmodic.* Whatever tends to prevent or remove spasm.
- Aperient.* Opening; gently purgative.
- Aphthæ.* Small, whitish ulcers, or inflammatory erosions appearing in the mouth.
- Arthritic.* Gouty; painful affections of the joints.
- Ascites.* Dropsy of the belly.
- Astriction.* A tightening or lessening; costiveness.
- Atrabiliary, or Atrabilarian.* An epithet commonly applied to people of a certain temperament, marked by a dark complexion, black hair, spare habit, &c., which the ancients supposed to arise from atrabilis, or the black bile.

- Atrophy.* A species of consumption, when the body or some member of it is not nourished, but decays and wastes away gradually.
- Attenuant.* Such medicines as open the pores of the body, and render more fluid, thick and glutinous humors.
- Bile, or Gall.* A fluid which is secreted by the liver into the gall bladder, and thence passes into the intestines, in order to promote digestion.
- Bronchotomy.* That operation which opens the windpipe by incision, to prevent suffocation.
- Bronchia.* The branches of the windpipe dispersed through the lungs.
- Bubo.* A tumor with inflammation in the groin.
- Cacoehymy.* An unhealthy state of the body.
- Calculus.* The stone in the bladder.
- Canker.* Eroding ulcers on the gums and tongue, formed without any previous tumor. "The canker," in popular language, is the same as *aphthæ* or *thrush*.
- Capillary Vessels.* The smallest branches of the veins and arteries.
- Carbonic Acid Gas.* Fixed air, carbonaceous acid, aerial acid.
- Caries.* A rottenness of the bone.
- Cathartics.* Purges.
- Chalybeate.* Impregnated with iron or steel.
- Chronic.* A disease whose progress is slow, in opposition to acute.
- Chyle.* A milky fluid separated from the aliment in the stomach and intestines, and conveyed by the absorbents into the blood, to supply the waste of the animal body.
- Circulation.* The motion of the blood, which is driven by the heart through the arteries, and returns by the veins.
- Colliquative Evacuations.* Dangerous fluxes, with profuse, clammy sweats.
- Comatose.* Sleepy.
- Constipation.* A constriction, or binding together; costiveness.
- Conglobate Gland.* A simple gland.
- Conglomerate.* A compound gland.
- Contagion.* 'A morbid secretion from the living human body, which by inoculation, or by diffusion through the air within a limited distance from its source, may be communicated to a healthy person, independently of climate, season, atmospheric temperature, purity or impurity; as smallpox, &c. Dr. Buchan, as was common in his day, and too much so in ours, uses contagion and infection as synonymous.' C.
- Crisis.* A certain period in the progress of a disease, from whence a decided alteration, either for the better or the worse, takes place.
- Critical.* Decisive, or important; pertaining to a crisis.
- Critical Days.* The fourth, fifth, seventh, ninth, eleventh, thirteenth, fourteenth, seventeenth, and twentyfirst, are by some authors denominated critical days, because febrile complaints have been observed to take a decisive change in these periods.
- Cruciform.* In botany, a plant having a flower consisting of four petals disposed in the form of a cross.
- Cucurbitaceous.* In botany, a species of gourd.
- Cutis.* The skin.
- Cuticle.* The scurfskin.

- Cutaneous.* Of or belonging to the skin.
- Debility.* Weakness; feebleness; decay of strength.
- Delirium.* A temporary derangement of the mental faculties.
- Deleterious.* Deadly; destructive.
- Desiccative.* Drying; tending to dry.
- Diaphoretic.* Exciting perspiration.
- Diaphragm.* A membrane separating the cavity of the chest from that of the belly, or abdomen.
- Diarrhœa.* A flux, or looseness of the belly.
- Diuretic.* A medicine that promotes the secretion of urine.
- Drastic.* Is applied to such purgative medicines as are violent or harsh in their operation.
- Dyspepsia.* A difficulty of digestion, or rather a depraved one; as when what is digested becomes acid, or possessed of other morbid qualities.
- Dyspnœa.* A difficulty in breathing.
- Dysuria, or Dysury.* A difficulty or heat in voiding urine.
- Eccoprotics.* Such medicines as gently purge the body.
- Efflorescence.* A spot, or eruptive appearance.
- Emmenagogue.* Medicines which excite the menstrual discharge.
- Emollient.* Softening.
- Empyreumatic.* A smell resembling that of burnt substances.
- Endemic.* A disease peculiar to a certain district of country.
- Enema, Clyster, or Lavement,* are equivalent with each other, and signify any liquid medicine injected into the anus.
- Epigastric.* Belonging to the region or part immediately over the stomach.
- Epidemic.* A disease generally prevalent.
- Errhine.* Medicines to snuff up the nose, and which, by causing sneezing, purge the head.
- Exacerbation.* The increase of any disease.
- Exanthemata,* Certain wheals or breakings out on the body; efflorescences, or pustules.
- Expectoration.* The act of discharging mucus, &c. from the lungs, &c. The matter coughed up.
- Feces.* Excrements.
- Fetid.* Emitting an offensive smell.
- Fetus.* The child before birth, or when born before the proper period, is thus termed.
- Flatulent.* Producing wind.
- Formula.* A prescription.
- Fungus.* Proud flesh.
- Gangrene.* Mortification in its first beginning; caused by a stoppage of the circulation, followed by putrefaction.
- Gestation.* The time of a woman's going with child.
- Glottis.* Is that chink of the larynx, that lies at the root of the tongue.
- Gymnasium.* The place where gymnastic exercises are taken. These exercises are various and diversified, so as to suit persons of different age, degrees of strength, &c. The effects of these exertions are, first, to give form and proportion to the several parts of the body in its development; and, secondly, to give force, activity, and adroitness to all its complicated organization.

The purpose of what has been called *Medical Gymnastics* is, to improve and preserve health, or to restore it when impaired or lost.

Gymnastic. Exercise taken with a view to preserve or restore health. The ancient physicians reckoned this an important branch of medicine.

Hæmoptoë. } A spitting of blood from the lungs.

Hæmoptysis. }

Hæmorrhoids. The piles.

Hæmorrhage. Discharge of blood.

Hectic Fever. A slow consuming fever, generally attending a bad habit of body, or some incurable and deep rooted disease.

Herculean. Powerful; of the greatest force.

Hypochondriacism. Low spirits.

Hydrogen. Is the basis of inflammable air; it is a constituent element of water.

Hypochondriac viscera. The liver, spleen, &c.; so termed from their situation in the hypochondriac, or upper and lateral parts of the belly.

Ichor. Thin, bad matter.

Imposthume. A collection of purulent matter.

Infection. 'The cause of infectious diseases. Infectious gases, effluvia, or vapors, arise from animal and vegetable substances in a state of putrefaction. Infection arises from heat, filth, and moisture. Infection produces yellow fever, and all other putrid and malignant fevers, which do not originate from a diseased action of the living body. Infectious disorders are produced by the effluvia of *dead* and putrid animal and vegetable substances. Contagious disorders are the product of morbid secretions in sick animals, affecting animals in health by means of contact, or through the medium of the atmosphere. *Infection* has been generally confounded with *contagion*. This is a very unfortunate error, and has led to serious evils, both in the speculative and practical parts of the medical profession. Infection is the offspring of the putrefactive fermentation among the particles of inanimate substances,—while contagion is the result of the action of living, secreting vessels, on the fluids they convey.

The dead, putrifying human body* has often occasioned infection, sickness, and death; but it requires the vascular action of the living cow to produce the contagious secretion of the cowpock virus.'

C.

Inflammation. A surcharge of blood, and an increased action of the vessels, in any particular part of the body, attended with heat, redness, swelling, and pain.

Inguinal. Has reference to what is commonly called the groin.

Lavement. See *Enema*.

Ligature. Bandage.

Lixivium. Ley.

Lohoch, or Linctus. A medicine to be licked by the tongue, or swallowed slowly.

Mamma. The nipple.

* When buried under churches, and in populous places.

- Mammae.* The breasts.
- Meconium.* The first, usually darkish, discharges from the infant's bowels.
- Mediastinum.* A double membrane, that divides the thorax or breast into two parts.
- Mesentery.* A double membrane, which connects the intestines to the back bone, and about which they are involved.
- Miliary Eruption.* Eruption of small pustules, resembling the seeds of millet.
- Morbid.* Diseased.
- Morbific.* Causing disease.
- Mucus.* The matter discharged from the nose, lungs, &c.
- Narcotic.* A stupifying opiate.
- Nausea.* An inclination to vomit.
- Nephritic.* A disease belonging to the kidneys and bladder.
- Nephritics.* Are those medicines that have a tendency to break or dissolve stony concretions.
- Nervous.* Irritable.
- Oxide.* A substance formed by the union of oxygen with a basis, as oxide of iron, of copper, &c.
- Papilionaceous.* Having emulgent vessels, like a nipple.
- Paroxysm.* A fit, or the periodical return of a fit; of a disease.
- Pectoral.* Medicines adapted to cure diseases of the breast.
- Pemphigus.* A fever attended by successive eruptions of vesicles, about the size of almonds, which are filled with a yellowish fluid, and subside in three or four days.
- Perennial.* Durable, perpetual.
- Perspiration.* The matter discharged from the pores of the skin, in the form of vapor or sweat.
- Peritonæum.* A membrane lining the cavity of the belly, and covering the intestines.
- Pericardium.* A membranous bag, containing the heart.
- Petechial.* Small spots on the skin, like flea bites, which come out in some fevers.
- Phlebotomy.* The art or operation of letting blood.
- Phlegmon.* An inflamed tumor, accompanied with heat, redness, and throbbing pain.
- Phlegmatic.* Watery, relaxed.
- Phlogiston.* Is here used to signify something which renders the air unfit for respiration.
- Phthisis Pulmonalis.* Consumption of the lungs.
- Plethoric.* Replete with blood.
- Polypus.* A diseased excrescence, or a substance formed of coagulable lymph, frequently found in the large blood vessels.
- Præcordia.* The parts about the heart.
- Prolapsus Ani.* The falling down of the fundament.
- Prolapsus Uteri.* The falling down of the womb.
- Pus.* Matter contained in a bile.
- Rectum.* The strait gut, in which the feces are contained.
- Refrigerant.* Cooling, refreshing.
- Regimen.* The regulation of diet, &c. Sometimes its meaning is extended to every thing tending to preserve health.

- Respiration.* The act of breathing.
- Restricting.* Binding.
- Saliva.* The fluid secreted by the glands of the mouth.
- Sanies.* A thin, bad matter, discharged from an ill conditioned ulcer.
- Scirrhus.* A state of diseased hardness.
- Secretion.* That function by which different organs separate from the blood various substances destined for particular uses. The liver secretes the bile, the kidneys the urine, the salivary glands the saliva, &c.—These secreted fluids, and others, all differ from the blood, the common source, whence they are derived.
- Sedative.* Composing, easing, antispasmodic.
- Slough.* A part separated and thrown off by suppuration.
- Sordes.* Filth, dregs.
- Spine.* The back bone.
- Sternutatory.* Causing to sneeze.
- Sternum.* The breast bone, which is situated in the middle of the breast.
- Styptic.* A medicine for stopping the discharge of blood.
- Subacid.* Rather acid; somewhat sour or tart.
- Succedaneum.* A substitute for another article.
- Syncope.* A fainting fit attended with a complete abolition of sense and motion.
- Tabes.* A species of consumption.
- Temperament.* A peculiar constitution or habit of body, of which there are generally reckoned four; the sanguine, the bilious, the melancholic, and phlegmatic.
- Tenesmus.* A continual desire of going to stool, attended with an inability of voiding anything except bloody, slimy matter.
- Thrush.* See *Apthæ*.
- Typhus, or Typhous Fever.* See *Nervous Fever*.
- Vaccine.* Of or belonging to a cow, or the cowpock.
- Variolous.* Of or resembling the smallpox; a distemper, that is so variously diversified, that it requires various methods of management.
- Venesection.* See *Phlebotomy*.
- Vermifuge.* A medicine to expel worms.
- Vertigo.* Giddiness.
- Vesicatory.* A blistering application.
- Virus.* Something poisonous; a morbid secretion.
- Viscera.* The bowels, entrails. The heart, liver, lungs, &c. are so called.
- Ulcer.* An ill conditioned sore.
- Umbelliferous.* Having umbilical vessels, in reference to the navel. There are four ligamentary vessels called by this name.
- Ureters.* Two long and small canals, which convey the urine from the kidneys to the bladder.
- Urethra.* The canal which conveys the urine from the bladder.

‘It would extend this glossary beyond its proper limits, to explain every medical term used in this work. I would therefore advise all those who wish to read this, or any other similar book understandingly, to use some octavo edition of Robert Hooper’s Medical Dictionary.’

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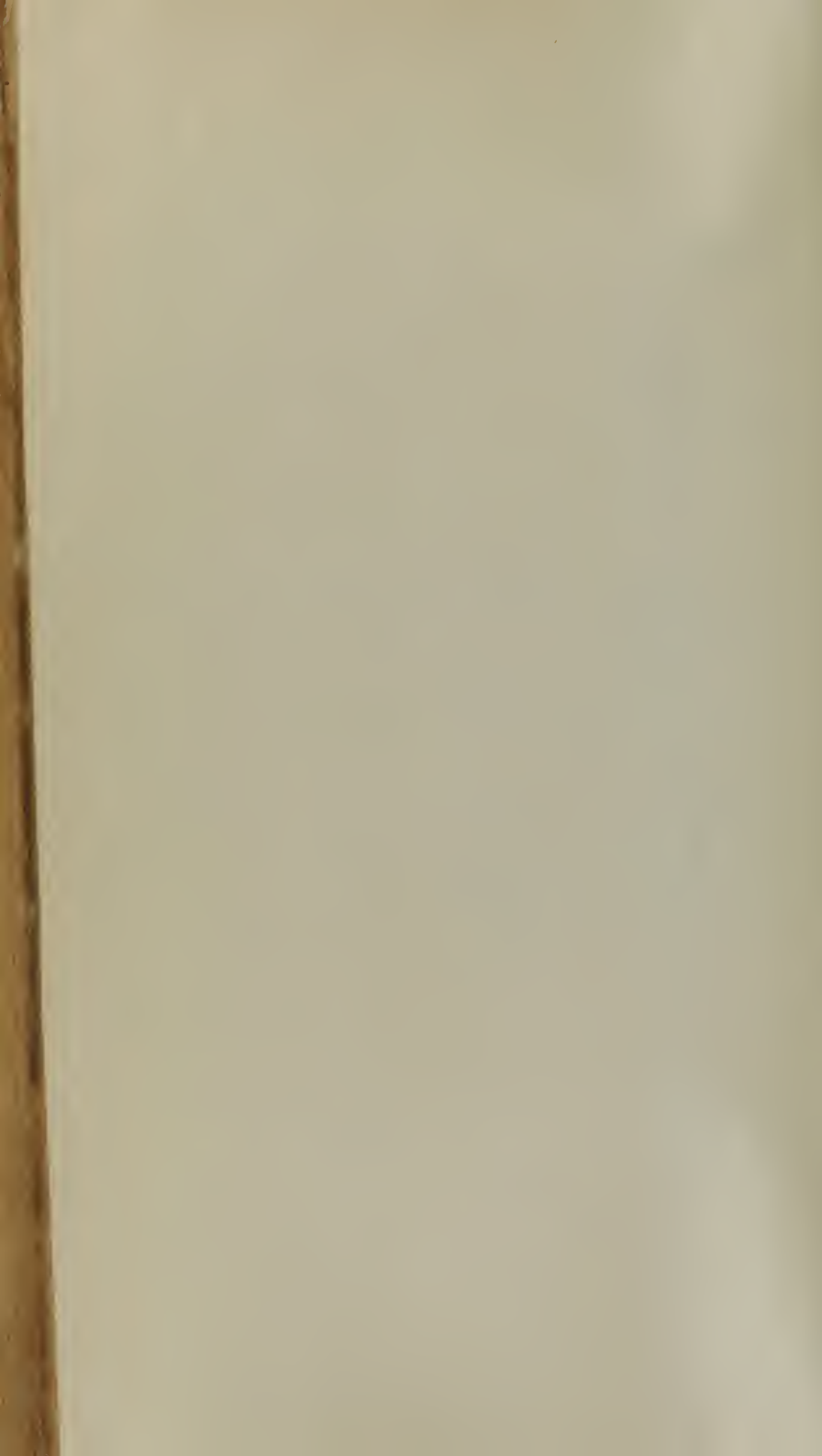
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