Domestic medicine. A treatise on the prevention and cure of diseases, by regimen and simple medicines. With an appendix containing a dispensatory for the use of private practitioners / [William Buchan] ; revised ... with additional notes, and a life of the author, by an eminent physician.

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Engraved by Thomson from an Original Painting by Wales in possession of the Doctors Son

W. Buchan

M.D.

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London
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DOMESTIC MEDICINE:

OR, A TREATISE ON THE

PREVENTION AND CURE OF DISEASES

BY REGIMEN AND SIMPLE REMEDIES.

WITH AN APPENDIX,

CONTAINING

A DISPENSATORY FOR THE USE OF PRIVATE PRACTITIONERS.

TO WHICH ARE ADDED, SOME IMPORTANT OBSERVATIONS CONCERNING

SEA-BATHING,

AND THE

USE OF THE MINERAL WATERS.

BY WILLIAM BUCHAN, M.D.
Fellow of the Royal College of Physicians, Edinburgh.

Revised and Corrected, with Additional Notes, and a Life of the Author,

BY AN EMINENT PHYSICIAN.

LONDON:
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THE EDITOR'S ADDRESS.

THERE are few works in the English language which have been so frequently reprinted, and so generally read, as "Buchan's Domestic Medicine." If this circumstance form any thing like a just criterion of its value, it will be admitted, that, to send a new edition of it into the world, divested of its obsolete parts, and to add to it what the light of science, and actual experience, has placed in our hands since the author's decease, will not be deemed unacceptable.

We have often been astonished to find, in almost every copy, and every new edition of Buchan, which has fallen into our hands, an entire disregard of real improvement.—It is surely the bounden duty of the Editor who undertakes to prepare a work for public inspection, to make that work keep pace with the times, and to avail himself of the knowledge which is daily developed, that it may be as perfect as possible.

But, with whatever industry and exactness a medical writer may prepare his publication now for the public eye, he will find, in the course of farther 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; and 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.

It is a matter of deep regret, that one of the most useful and important branches of human ingenuity should be among the last of those that attain perfection. The healing art, consigned among savages to the charms of the reputed sorcerer, is too frequently intrusted, by a large portion of the inhabitants of polished states, to the interested pretensions of nefarious quacks, and the far less dangerous prescriptions

of ignorant old women. Men of regular education too often feel themselves deterred from improvement by the prejudices of the schools on one hand, and the terrors arising out of even successful innovation on the other. Medicine, therefore, as a science, is often doomed to languish for ages, until some bold enterprising man, the Luther of physic, achieves a sudden and memorable revolution. This was happily effected by the author of the Domestic Medicine, who, while he unfolded the operations of nature with a masterly hand, at the same time simplified all the processes of the healing art. He found physic a trade, and endeavoured to convert it into a science.

When Dr. Buchan at first attempted 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 stories of malignant invention were exhausted, to blacken the character of the author, to lower the public opinion of his integrity, and consequently, to destroy his pretensions to honest fame: but he was not easily daunted; he pursued the path of Cornaro, Tissot, Cheyne, and others, and lived long enough to see his adversaries fall beneath his lawful weapons.

"No man liveth unto himself," is the Christian's motto. We are the citizens of this world, as well as probationers for another, and ought to render ourselves useful in our day and generation. The life of man is of short duration: its brevity therefore stamps a value upon our efforts to ameliorate the condition of our fellow-creatures, and raises into consequence means, apparently small, that would otherwise be disregarded. With this duty before us, no doubt can be entertained by the thinking part of the community, that more real service would be rendered to medicine by a full illustration of what is already known on the subject, than by any farther attempt to promulgate new theories or new modes of practice.

Natural gift and learning, when confined to the individual, are nearly as useless to the community at large

as though they did not exist. They are like a river that takes a subterraneous course, and is known only to its own dark and solitary channels. But when they are made subservient to the general diffusion of knowledge, through the medium of the press, they are like a river winding beneath a fervid sun through a thirsty country, whose branches irrigate the surrounding plains, permeate the arid soil, and scatter fertility over the face of nature. There is, moreover, in the intellectual as well as in the physical world, a moral obligation imposed on the favoured few, to extend a portion of the fruits of their endowments and acquirements to the indigent many; an extension which, in the medical department particularly, is productive of the most beneficial consequences, not only to the profession itself, but to society at large.

The annals of medicine, ancient and modern, pregnant as they are with the most valuable information, are yet, from their vast extent, and the languages in which they are recorded, almost completely inaccessible to nine-tenths of medical practitioners. Hence it is, that too many medical men enter on the actual duties of their profession with but a scanty stock of medical lore. It is no wonder, then, that those who are thus deficient themselves should depreciate the diffusion of knowledge among the mass of mankind.

It has been objected, that such publications tend to degrade and injure the medical profession; but it does not appear that those who are properly qualified can suffer permanently thereby. There seems more foundation for the opinion, that imaginary diseases will be multiplied, and patients sometimes fall victims to their complaints being treated by those who do not properly understand them.

When we consider the almost boundless acquisitions to be made in the different branches of natural knowledge, as well as in the practical acquaintance with that complicated machine, in which the human mind acts the most conspicuous part; when we reflect on the various requisites to form the character of a

true physician, and the great trust reposed in him by all ranks of society—it will not appear surprising to the cool observer, that in this honourable profession, the number of its adepts should be equally diversified by their talents, their claims to public favour, and their modes of action.

Who can estimate the benefit that Wickliffe bestowed on Englishmen, and on the English language, by rescuing the Bible from the dominion of priests and the Latin language? It is beyond all calculation.

Religion was then, what physic is at present: the Bible was translated into English, and its contents were left to the consideration of mankind. Let physic be practised in the English language, and patients then will be enabled to assign its proper estimation. The clamour and persecution that these remarks will excite against the writer, will be, "as dewdrops on the lion's mane." The most outrageous abuse was bestowed upon Wickliffe by the "Latin party," for thus enabling the multitude to draw at the fountain of their faith.

When the charter was first granted to the College of Physicians, the state of commerce in this country, as well as the state of physic, (for they naturally go hand in hand,) was very different from the present period. The idea of sophistication then had little entered the head of the apothecary. He had not then learned to mix opium, an article of high price, with extract of liquorice, a cheap article, and form them into a compound. He had not learned to mix the powder of Peruvian bark with the bark of the cherry-tree and other indigenous productions. These arts are only learnt by time, by temptation holding its lure, and by corruption of manners: that they exist, and are daily and hourly practised, is well known, and what no druggist can deny. Thus the qualities of medicines being debased, the practitioner is disappointed in the effects of his prescription, and the patient becomes discontented with his physician. We might appeal to the profession, and ask how often they have been deceived by this baneful cause, and

had reason to condemn the drugs of the apothecary's shop. It is from this, the healing art is thrown into discredit, and that remedies of the highest virtues in a genuine state are abandoned by physicians, from the iniquitous arts of those that supply the articles. It is urged therefore in this place, and in other parts of the volume, to beware of those shops that pretend to sell cheap drugs, and where human lives are left at the mercy of those who are as destitute of sound knowledge, as they are of good principle.

It is sometimes difficult to speak sufficiently cautious on certain professional points, but delicacy of expression, as far as the subject will permit, appears natural to our author. He never countenanced any thing that was subversive of christian morality. He was not of the number of those who pay no regard to a future state. It were much to be wished that the sweeping charge of infidelity could be wiped away from the medical profession—a profession replete with opportunities for doing good, were its members conscious of the responsibility which rests upon them. A small work has lately been published, for the purpose of urging the importance of religious influence on the medical character. The author seems deeply sensible of the levity which pervades the profession, and endeavours to enforce the inefficacy of all human skill, without the divine aid.

Alluding to this laxity of principle in gentlemen of the medical profession, the author of a critique on the above work, which lately appeared in col. 762 of the Imperial Magazine, 1825, has the following paragraph, which we copy with much pleasure.

"Happily, to the preceding delineation of charac ter there are numerous exceptions. These the author contrasts with the former, and draws an inference decidedly in favour of the religious practitioner. He does not attempt to metamorphose the physician into a preacher; but thinks that in those solemn moments, when called to visit the sick and the dying, intimations of his belief in a future state, and the necessity of preparing for the awful event which seems impending,

might consistently be blended with a strict attention to professional duties."

Every physician knows of what importance Hippocrates considered the question of diet, and that he has devoted a considerable part of his work to this subject alone. If life and health are maintained by air and food, it cannot be a matter of indifference what air we breathe, and what kind of food is taken into the stomach. It may be asked how, and in what manner, can improprieties in our diet lay the foundation of diseases? The question is fully answered in part of this volume. It is justly observed, that "diet is oftentimes of more influence than medicine, and by a proper attention to simplicity of food and drink, the doctor may be frequently dispensed with."* It may be held up as a salutary rule, that only a small portion of food should be taken at a time; because a large portion cannot be so conveniently digested, or converted into chyle—an immoderate quantity injures the coats of the stomach, distends the vessels, and destroys their power. The following rule has been laid down, "Eat as much only as is necessary to supply the waste suffered by the body:" if we transgress this rule, we produce too much blood; a circumstance as detrimental to life, as that of having too little. The most simple dishes are the most nourishing. The multiplied combinations of substances, though they may please the palate, are not conducive to health.

The author, in common with others of liberal views, regretted the present mode of education, and that test for talent which has been laid down by our universities, and which is so exceedingly absurd; it denotes a want of acquaintance with the capacity of the human mind. Our college censors must know, that one person will often learn as much in a twelvemonth, as another in seven years, and that the proper examination touching the merits of the individual as a candidate is the only rational test to be looked for, where the public good, and the lives of the community, are at stake. In an application for a license, at present, a young

* See Dr. Murray's New Practical Cookery.

man bred at an university, without the smallest professional experience, can solicit and procure an honour which a man of the most approved abilities, learning, and skill is not permitted to obtain, because, forsooth, he has not enjoyed the benefit of an academical residence. Too often this residence, with young students, is the scene of dissipation and profligacy, rather than the seat of observation and study.

The author has been censured for allowing his book to contain a summary of the different branches of the profession. His opinion obviously was, that physic does not, like the mechanical arts, admit of nice divisions and distinctions—no man can be a very good physician, who has not cultivated anatomy, and worked with his own hands to acquire a knowledge of the healthy structure of the human body,—nor without knowing, at least generally, the principles of surgery, so as to be capable of applying the knowledge of diseased actions and structure, which are objects of the senses in external disorders, to those analogous diseases which are situated internally.

He will be but an indifferent surgeon, who, to a knowledge of anatomy, and a facility of operation, does not unite a general acquaintance with medicine; neither will he be likely successfully to practise in all cases which may fall under his cognizance, unless he has devoted some attention to the practice of midwifery:—the latter branch of medicine, or surgery, for it partly partakes of both, can only be usefully practised by one who has a considerable knowledge of anatomy, medicine, and surgery. If this view of the profession be correct, it may be asserted that every well-informed surgeon should understand medicine, and every practical physician should understand surgery; that each branch of science should be well understood by both; for, either in a physical or surgical case, the art of healing is too intimately blended, to admit of a consummate knowledge of the one, and a comparative ignorance of the other.

The objections which are generally urged against the dissemination of a certain portion of medical know-

ledge will be found fully and clearly refuted in the ensuing masterly Preface and Introduction, which we earnestly recommend to be read again and again.

Having offered these preliminary observations, we shall only add, that having had access to a very extensive library, we have left no source unexplored for the purpose of making the Caxton Edition of Buchan's book worthy of public approbation:—we have added several new chapters and sections—we have illustrated the work with notes—and have noticed the new remedies and new modes of treatment which have been discovered since the author's decease. The new articles in the table of contents are printed in italics; and the paragraphs and notes for which we are responsible are marked "Ed." No one, perhaps, will be disposed to believe the extent of labour which has been bestowed on this performance. It will be admitted by impartial judges to exceed in usefulness any edition that has preceded it; but, from the progress and improvement going on, it cannot be brought to a state of fixed perfection.

If any one, not bred to science, should imagine, that by consulting this work he may readily become his own physician, he mistakes our meaning. The object in view is, to furnish help in cases of emergency, and afford familiar instruction on more common occasions. Families are therefore entreated not to tamper with their children or others, and not to give that preference to books and their own judgment, which is more properly due to the medical practitioner.

This work may be acceptable to country clergymen, who have it in their power to be eminently useful to their poor parishioners in times of sickness.

With moderate application to the study of medicine, they may have the satisfaction of relieving distress, and of seeing clearly the extent of their ability, both to distinguish and to cure diseases.

MEMOIR

OF

THE LATE DR. BUCHAN.

To unfold the attainments, and to appreciate the characters, of literary men, is often a difficult, and, sometimes an invidious undertaking. Men of letters live in a world of their own; if they produce not their researches before the public eye, how are their pursuits to be estimated? The partiality of friends may overrate them, or the malignity of enemies may degrade them; the biographer himself, too, may have his favourite bias; and through eagerness to encircle his hero with his own opinion, whether theological, political, or medical, may do injustice to his character.

The biography of medical men is but scanty, and the greater part of even that which exists, is not peculiarly interesting. The lives of the generality of the profession is too even, too little chequered by eventful circumstances, to give zest and interest to a narrative; and its duties and anxieties are so uniform, and happen so alike to all, that one day may be said to tell unto another its unvaried history. Dr. Samuel Johnson says, that a book written on the good and bad fortune of physicians would be a very entertaining one;—but the question is, who will furnish materials for such a work? To obtain a medical reputation, is generally easier than to deserve it; and the history of physicians shews more the influence of caprice and accident, and underhand influence, than the success of real merit.

In this deficiency of personal anecdote, and of variety in the scene of action, the biographer must draw his materials chiefly from the writings of the subject of his memoir, and his great aim must be, to unfold the circumstances which gave rise to, and assisted the progress of his opinions, and to mark the influence which they exerted on the theories and practice of

the times. A work of this nature, though, perhaps, not strictly conformable to the rules of regular biography, might indubitably be rendered very interesting, and, what is better, very useful, provided the person whose life and labours it recorded, was confessedly one of pre-eminent acquirements, and whose opinions had, in fact, influenced those of his professional brethren, or the community at large.

The utility, not the quantity, of his exertions, determines the worth of a man of letters; the test of literary merit being the same as that of moral qualities. Of this utility, however, the public are not always competent judges. In many instances, time, experience, and the resignation of ancient prejudices, must render the discoveries of speculative men familiar. But in ordinary cases the public will be found the best judges, and an appeal to their opinion, the rule of prudence. It will be seen now, how far these remarks apply to the subject of this memoir.

Dr. Buchan was born at Ancram, a small village near Jedborough in Roxburghshire, in the year 1729. His father was a farmer: and as the pride of the middling ranks of Scots yeomanry is strongly displayed in their preference of the learned professions for their children, divinity and physic are the grand objects of their attention and pursuit. The Doctor at an early period of life had an inclination for medical studies, and even while a boy at the grammar school, was accustomed to act in the capacities of both physician and surgeon to the whole village. He proceeded, however, to the university of Edinburgh with a view to the study of divinity. But in this great school, his pursuits in the gloomy theology of Calvin were soon interrupted by a predilection for mathematics, which proved more congenial to his mind. In this branch of science he soon acquired such proficiency as to be frequently employed as a private tutor to such of his fellow-students as were less precocious than himself; he was thus at once enabled and induced to continue at the university during a period of nine years.

This long residence naturally led to an intimacy with many of the students of medicine, these constituting the majority of those who frequent that celebrated seminary. He at the same

time made a considerable proficiency in botany, at that period systemized by the genius of a Linneus; which delightful department of science continued to furnish a source of amusement for many years of his life. Dr. Buchan at length dedicated himself wholly to the study of medicine, and enjoyed a familiar intercourse with all the professors of physic, particularly the late Dr. Gregory, whose liberal opinions concerning medical knowledge probably had considerable influence on his own future views and conduct.

As soon as the Doctor relinquished the theological path, for the more attractive study of the healing art, we find him exercising that diligence and attention, which a literary character, such as his, was fond of bestowing on it; and without which no man must expect to acquire celebrity in any pursuit.

He carefully endeavoured to separate the dross of the science from the real ore; and, laying aside visionary and chimerical opinions, he grasped wisely at the facts which the science held forth, and on these built his principles of practice. This is conspicuous in his works, where facts only are predominant, divested of all reasoning, and dressed in the simple attire of plain narration. In this material point he differed from his fellow-student the celebrated John Brown, who afterwards became a popular lecturer. Brown was, like him, originally intended for the church; but the incongeniality of the pursuit with his natural disposition induced him to abandon theology for the study of medicine. The mind of Brown was formed to generalize and to detect the principle of explanation from the solitary fact, as it were by intuition, before a sufficient collection was formed on which to build the chain of induction.

The mind of Buchan appreciated the fact itself, and held it fast, regardless of the explanation. The one was anxious to found a system; the other, laughing at all system, trusted to experience. The one shone as a dogmatist; the other was a rational empyric. The one produced a system, which, in the hands of the profession, imperfectly understood, and improperly applied, has often been productive of fatal consequences; the other introduced medical knowledge into the hands of the people, with similar results in the opinion of the profession, but with manifest benefit in the opinion of the public.

The early education of Buchan, and the religious opinions imbibed by him in his youth, gave him rather a dislike in after life to those establishments which are founded on high aristocratic authority; and it is not improbable that certain prejudices acquired on the other side of the Tweed may therefore be considered as the source of that opposition which he always shewed to professional etiquette and monopoly. Buchan has been aptly designated by a respectable reviewer as one, who during his life was "a censor of college manners, and an enemy to college laws;" as one who scorned the trade of the profession, while he endeavoured to extend the utility of its principles, and its importance as a branch of science.

Laying it down then as a maxim, that in every science mankind to a certain degree think for themselves, he considered that they ought to do the same in medicine, and that in order to enable them to do so, the profession should be divested of that mystery which envelops it, and which is deemed necessary to its dignity and success in the eyes of the public. It was on these principles the present work was first written, which drew the resentment of the profession upon him; but there can be no doubt of its instrumentality in leading to more rational practice among the people, and in overturning many prejudices which time and authority had sanctioned.

In consequence of the invitation of a fellow-student who had settled at Sheffield, in Yorkshire, the Doctor joined him for some time in the practice of his art. Here a new incident tended not a little to extend his fame and improvement. On a vacancy for a physician to the foundling hospital, then established, and supported by parliament, at Ackworth, he declared himself a candidate, and was elected, after a public competition, or trial of skill, with ten professional men. While here, he laid the foundation of that knowledge of the diseases of children, which afterwards formed the subject of his *inaugural dissertation*, when he returned to Edinburgh to take a degree as doctor of physic. The title of this valuable performance was, *De Infantum vita conservanda;* it was much approved by the professors at that time, and now constitutes the substance of the first, and, as he used himself to think, the best chapter of his popular work, The Domestic Medicine. While in the capital of Scotland, for the purpose alluded to

above, he courted the eldest daughter of Mr. Peters, on his union with whom he received a competent fortune, and in addition to this, formed some very respectable connexions, the lady in question being related, by means of her mother, (whose name was Dunbar) to the respectable family of Dundas. He soon afterwards returned to resume the duties of his profession at Ackworth, where his eldest son now living was born. The Doctor remained there until the institution itself was annihilated. Parliament being at length convinced that foundling hospitals did little or no good, withdrew the sixty thousand pounds annually voted for its support, in consequence of which the whole fabric tumbled to pieces.

On this, our young physician returned to Edinburgh, where he practised for several years with success, and occupied his hours of leisure in composing this valuable work, which treats of the cure and prevention of diseases by regimen and simple medicines. This was first published in 1770, and was dedicated to sir John Pringle, then president of the Royal Society, with whom he was in some measure connected by family compact.

On the death of Dr. Gregory he became a candidate for the vacant chair; but the system, the abominable system, of rendering professorships hereditary, presented an invincible obstacle to his promotion, which, though successful in that instance, and subsequently on one or two occasions, must inevitably terminate in the ruin of whatever university adopts it as a rule of conduct. A bequest from a scientific man, equally honourable to both parties, now pointed out a new career.

The celebrated Ferguson, for many years a lecturer on natural philosophy, on his death bequeathed his apparatus, at that time considered the best in Great Britain, to the Doctor; and if not absolutely as a legacy, yet on terms so beneficial, that he considered it prudent to accept it. Immediately after this, he delivered two courses of lectures annually for three years, with the assistance of his son, who performed the experimental part, to very crowded audiences, the apartment, which held about two hundred persons, being always full. These philosophical avocations probably injured his professional pursuits, as mankind in general conceive, and perhaps not unjustly,

that the practice of such an important profession as that of medicine, is alone sufficient to occupy the mind of any one individual.

The very general diffusion as well as great celebrity of his work having rendered the Doctor's name by this time exceedingly popular, he determined to try his future fortune on the wider theatre of London. On settling there, he accordingly disposed of his philosophical apparatus, on advantageous terms, to Dr. Lettsom, and began to practise under the happiest auspices. His success was at first very flattering; and, could he have withstood the allurements of company, which his convivial talents always enlivened, and considered the healing art merely as a lucrative profession, he might undoubtedly have amassed an ample fortune. But he too frequently preferred the society of an agreeable friend to the calls of business, the importunities of patients, and the pursuit of wealth.

He, however, exerted himself at times; and a little before the French revolution, he repaired to Dunkirk, where he restored a rich merchant to health, after his case had been relinquished as hopeless by the faculty in France.

His *magnum opus*, the Domestic Medicine, has experienced a sale far exceeding that of any other medical work ever published before in the empire. It has gone through no less than thirty-eight editions, many of which consisted of six and seven thousand copies, and it still enjoys as extensive a circulation as ever. In addition to this, it has been frequently republished in America, and has been repeatedly imitated, copied, and pirated in various ways, as well as under different forms, in England, Ireland, and Scotland. It is translated into every language of Europe, even into the Russian. The reputation of the author appears to be still greater on the continent than in his native country. From the late Empress of all the Russias, the munificent rewarder of every species of merit, he received a large medallion of pure gold, which has been much admired, with a complimentary letter written at her imperial Majesty's express desire, by the chancellor D'Osterman.*

* We subjoin a translation.—

"St. Petersburg, January 30, 1786.—The Empress, my august sovereign, has charged me, sir, to assure you, in her name, how much she has been delighted with your interesting work, addressed to her. Her Imperial Majesty will always feel a pleasure in taking every opportunity of

He also received many other complimentary letters, some of them accompanied with presents, both from individuals and societies in several of the West India Islands, expressive of their sense of the many and great advantages derived from his work.

In addition to this, he has published a treatise on the Venereal Disease, which has passed through several editions. His last work is entitled Advice to Mothers on the subject of their own Health, and on the means of promoting the Health of their Offspring; and which we shall probably republish in an improved form as a companion to this; and on this, as on all other occasions, he pleads the cause of the best interests of humanity.

The leading trait of the Doctor's character was good will towards men of every description. This benevolent temper, which could never resist the call or even the appearance of distress, greatly injured his pecuniary circumstances: although it is now ascertained, that even in his latter years he was in the annual receipt of more money than any person then imagined.

Dr. Buchan possessed a pleasing exterior, a fine countenance, as expressed in the portrait* accompanying this edition; great suavity of manners; and an astonishing fundof amusing anecdote, which he told in such a manner as to delight his associates. Both the figure and face of the author of the Domestic Medicine must be allowed to have been not only peculiarly interesting, but to have also displayed all the characteristics of masculine beauty. In form he exceeded the common standard; his features were animated with a vivid glow of health, he possessed the eagle's eye, and even the eagle's beak, if a fine aquiline nose may be so denominated: while his person, tall, athletic, and well-proportioned, exhibited

shewing the interest she has in literature, and particularly in those who cultivate it with so much utility and reputation as you, sir. I am ordered by her to transmit you the medal that accompanies this, as a still further mark of her esteem. At the same time I embrace this opportunity to assure you of the sentiments of high consideration with which, I have the honour to be, sir,—your most humble and most obedient servant,

(Signed) C. J. D'Osterman.

Addressed "Dr. Buchan."

* For this correct likeness we beg to acknowledge ourselves indebted to his son, Dr. A. P. Buchan, of the Royal College of Physicians, London.

an union of strength and symmetry. When age had 'silvered o'er his head,' it acquired a new dignity, still mingled, however, with grace, and resembled those highly wrought performances which we sometimes find copied from nature, and transferred to canvass by the pencil of one of the old masters. He also enjoyed that grand desideratum, an excellent constitution, and never experienced any serious illness until within a year of his death, when his health at first began to decline, but gradually, and without precipitation.

It has been already mentioned, that the Doctor at an early period of his life exhibited a marked predilection for mathematics. To this it may be added, that he also had a great taste, while at Edinburgh, for astronomy, and employed many hours of his life in attaining a precise knowledge of the laws which regulate the planetary system. With these he joined a pursuit, far different indeed, and of a very dissimilar nature; a pursuit which, although it may grace, yet but seldom accompanies graver studies. This was a taste for poetry, cultivated assiduously and with success, at his leisure moments, until the latest period of his life.

It is well known, that, when he was accustomed to attend the late general Murray, uncle to the present duke of Athol, at a house built by the latter near the spot where William and Harold contended for the sovereignty of England, he was greatly struck with the idea of traversing the field of battle, on which the Saxon prince fell, and the Norman chief triumphed! This produced some excellent lines addressed to Battle Abbey, a most magnificent religious house, royally founded, but now falling into decay, which was originally erected by the Conqueror, as an expiation for the blood shed and the murders and ravishments committed by him and his followers, who had sacrificed every principle of justice to a lawless ambition, the lust of power, and the desire of plunder! Even to his last hour he lighted up incense at the shrine of the muses; for Dr. Buchan, like Cornaro the able Venetian, an author who also wrote on health, employed his pen, and was in full possession of his faculties, when almost fourscore.

The disorder which proved fatal to him, at length assumed an alarming appearance, and indicated symptoms of water in the chest. But he never once complained, or shewed any

apprehensions of death, of whose approach he was, however, perfectly sensible, and even frequently spoke of the event without emotion. He was abroad on the very day previous to his demise, which occurred on the 28th of February, 1805, at nine o'clock in the evening, while attempting to reach his bed from the sofa, where he had just been reclining, and talking with his usual placidity of temper. Thus the last act of his life was peculiarly tranquil, expiring without any any previous confinement, in the full possession of all his faculties, without any considerable degree of pain, and almost without a groan.*

The life of this celebrated physician will constitute an epoch in the history of medicine.

Since the first appearance of the "Domestic Medicine," pharmacy has in a great measure been rescued from the jargon of barbarous technology, and the regular bred and meritorious practitioner distinguished from the retailer of spurious compounds. The science itself has also been laid open, simplified, and diffused; so that the most useful of arts, by constituting a branch of general education, will become at once better known and more respected.

A popular writer observes, that "it is common for medical men to condemn all attempts to diffuse a knowledge of medicine generally among mankind." But, does not this opposition arise from mean motives, from jealousy and avarice. They are aware that such knowledge will enable the public to distinguish the man of merit from the pretender, and that the publications may have the effect of introducing their authors to the bedside of the afflicted in preference to themselves. These are the only causes that induce so many medical men to rail against works on domestic medicine. A medical man of a benevolent mind, whose practice is founded on scientific principles, would rather encourage than condemn such productions, especially as they perform no small degree of service

* The Doctor's remains were interred on Wednesday the 6th of March, 1805, in Westminster Abbey. Dr. Vincent, the dean, it is said, behaved on this occasion with a liberality becoming his character, as a member of our e xcellent establishment; the corpse, which was respectably attended by those who formed a true estimate of worth, was placed under that roof which gives shelter to all that is mortal of so many illustrious Britons, amidst the peals of the choir, and the tears of numerous friends and acquaintances.

to himself; for it is the total ignorance of the people that makes the practice irksome to men of experience and judgment. It is the ignorance which screens impostors, and puts them on a level with men of real merit.

The pretender shrinks from the scrutinizing eye of intelligence; he knows that the man of sense and knowledge will distinguish those who deserve his confidence, that he will cheerfully resign himself to the guidance of the honest and judicious practitioner, and calmly submit to the misfortunes which form a part of his condition in this life. Of those medical men who assert that the public have nothing more to do with disease than tamely to submit to it, and to take whatever they may prescribe for their relief, the man of science will naturally inquire to what degree of perfection the healing art is brought? With all their boasted knowledge, have they established a principle or theory on which medical men have a general agreement?

In closing this memoir, it may be remarked, that it is no easy task to surmount long established prepossessions; but the writer feels bold in the consciousness of discharging his duty to society, and, unmindful of the opinions of those, who prefer to retain rather than discard their prejudices, and to persist in rather than relinquish an error, he appeals to the liberal and enlightened part of his profession, and of mankind; and he will think himself amply rewarded, if he shall have the good fortune to rescue one fellow-creature suffering under the pangs of disease, from the hands of ignorance and inexperience, and induce others to cultivate with more assiduity this important subject.

On the whole, Dr. Buchan may be regarded as the father of popular medicine; as having given the clue to Beddoes, Hamilton, Lettsom, Wallis, Willan, Rees, Underwood, and others, who have prosecuted the same track, and as even holding a superior claim to reputation over every other writer who has hitherto contended for the palm in public estimation.

THE AUTHOR'S PREFACE.

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

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

The observations relative to Nursing and the Management of Children were chiefly suggested by an extensive practice among infants, in a large branch of the Foundling Hospital, 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 those suffering innocents, or of rescuing them from an untimely grave. No one, who has not had an opportunity of observing them, can imagine what absurd and ridiculous practices still prevail in the nursing and management of infants, and what numbers of lives are by that means lost to society. As these practices are chiefly owing to ignorance, it is to be hoped, that when nurses are better informed, their conduct will be more proper.

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

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

The observations concerning Diet, Air, Exercise, &c. are of a more general nature, and have not escaped the attention of physicians in any age. They are subjects of too great importance, however, to be passed over in 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 endeavoured to point out the causes of diseases, and to put people upon their guard against them, yet it must be acknowledged that they are often of such a nature as to admit of being removed only by the diligence and activity of the public magistrate. We are sorry, indeed, to observe,

that the power of the magistrate is seldom exerted in this country for the preservation of health. The importance of a proper medical police is either little understood, or little regarded. Many things highly injurious to the public health are daily practised with impunity, while others, absolutely necessary for its preservation, are entirely neglected.

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

In the treatment of diseases, I have been peculiarly attentive to Regimen. The generality of people lay too much stress upon Medicine, and trust too little to their own endeavours. It is always in the power of the patient, or of those about him, to do as much towards his recovery as can be effected by the physician. By not attending to this, the designs of Medicine are often frustrated; and the patient, by pursuing a wrong plan of regimen, not only defeats the Doctor's endeavours, but renders them dangerous. I have often known patients killed by an error in regimen, when they were using very proper medicines. It will be said, the physician always orders the regimen, when he prescribes a medicine. I wish it were so, both for the honour of the Faculty and the safety of their patients; but physicians, as well as other people, are too little attentive to this matter.

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

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

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

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

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

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

I have not troubled the reader with an 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 which I have seen. Had the Doctor's plan been as complete

as the execution is masterly, we should have had no occasion for any new treatise of this kind so soon; but by confining himself to the acute diseases, he has, in my opinion, omitted the most useful part of the subject. People in acute diseases may sometimes be their own physicians; but in chronic cases, the cure must ever depend chiefly upon the patient's own endeavours. The Doctor has also passed over the *Prophylaxis*, or preventive part of medicine, very slightly, though it is certainly of the greatest importance in such a work. He had no doubt his reasons for so doing, and I am so far from finding fault with him, that I think his performance does great honour both to his head and to his heart.

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

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

Though I have endeavoured to render this treatise plain and useful, yet I found it impossible to avoid some terms of art; but those are in general either explained, or are such as most people understand. In short, I have endeavoured to conform my style to the capacities of mankind in general; and, if my readers do not flatter either themselves or me, with some degree of success. On a medical subject, this is not so easy a matter as some may imagine. To make a show of learning, is easier than to write plain sense, especially in a science which has been kept at such a distance from common observation. It would, however, be no difficult matter to prove, that every thing valuable in the practical part of medicine is within the reach of common abilities.

It would be ungenerous not to express my warmest acknowledgments to those gentlemen who have endeavoured to extend the usefulness of this performance, by translating it into the language of their respective countries. Most of them have

not only given elegant translations of the book, but have also enriched it with many useful observations; by which it is rendered more complete, and better adapted to the climate and the constitutions of their countrymen. To the learned Dr. Duplanil of Paris, physician to the Count d'Artois, I lie under particular obligations; as this gentleman has not only enlarged my treatise, but, by his very ingenious and useful notes, has rendered it so popular on the Continent, as to occasion its being translated into all the languages of modern Europe.

I have only to add, that the book has not more exceeded my 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.

INTRODUCTION.

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

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

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

The different branches of philosophy have also of late been very universally studied by all who pretended to a liberal education. The advantages of this are manifest. It frees the mind from prejudice and superstition; fits it for the investigation of truth; induces habits of reasoning and judging pro-

perly; 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 cockle-shells.

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

As matters stand at present, it is easier to cheat a man out of his life than of a shilling, and almost impossible either to detect or punish the offender. Notwithstanding this, people still shut their eyes, and take 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.

* Observations on the Duties and Offices of a Physician.

Many of the faculty are no doubt worthy of all the confidence that can be reposed in them; but as this can never be the character of every individual in any profession, it would certainly be for the safety, as well as the honour, of mankind, to have some check upon the conduct of those to whom they intrust so valuable a treasure as health.

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

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

Very few of the valuable discoveries in Medicine have been made by physicians. They have in general either been the effect of 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 of 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 shewn, that since the laity have asserted their right of inquiry into these subjects, theology, considered as a science, has been improved, the interests of real religion have been promoted, and the clergy have become a more learned, a more useful, and a more respectable body of men, than they ever were in the days of their greatest power and splendour.

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

I know it will be said, that diffusing medical knowledge among the people, might induce them to tamper with Medicine, and to trust to their own skill, instead of calling a physician. The reverse of this, however, is true. Persons who have most knowledge in these matters, are commonly most ready both to ask and follow advice, when it is necessary. The ignorant are always most apt to tamper with Medicine, and have the least confidence in physicians. Instances of this

are daily to be met with among the ignorant peasants, who, while they absolutely refuse to take a medicine which has been prescribed by a physician, will swallow with greediness any thing that has been 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 very 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 humours of men must be regarded by those who mean to do them service; but this can never affect the general argument in favour of candour and openness. A man might as well allege, because there are knaves and fools in the world, that he ought to take every one he meets for such, and to treat him accordingly. A sensible physician will always know where disguise is necessary; but it ought never to appear on the face of his general conduct.

The appearance of mystery in the conduct of physicians, not only renders their art suspicious, but lays the foundation 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 mysti-

cal 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 one 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 king-

dom, even when he employs a first-rate physician, in reality trusts his life in the hands of an idle boy, who has not only the chance of being very ignorant, but likewise giddy and careless. Mistakes will sometimes happen in spite of the greatest care; but where human lives are concerned, all possible methods ought certainly to be taken to prevent them. For this reason, the prescriptions of physicians, instead of being couched in mystical characters and a dead language, ought, in my humble opinion, to be conceived in the most plain and obvious terms imaginable.

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

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

ment 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 shew them their error, and a little more reading will infallibly correct it. A single instance will shew the absurdity of this notion. A sensible lady, rather than read a medical performance, which would instruct her in the management of her children, generally leaves them entirely to the care and conduct of the most ignorant, credulous, and superstitious part of the human species.

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

The benefits of Medicine, as a trade, will ever be confined to those who are able to pay for them; and of course, the far greater part of mankind will be 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 sneer 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 beside diet, which ought by no means to be neglected. Many hurtful and destructive prejudices, with regard to the treatment of the sick, still pre-

* Arbuthnot.

vail among the people, which persons of better sense and learning alone can eradicate. To guard the poor against the influence of these prejudices, and to instil into their minds some just ideas of the importance of proper food, fresh air, cleanliness, and other pieces of regimen necessary in diseases, would be a work of great merit, and productive of many happy consequences. A proper regimen, in most diseases, is at least equal to medicine, and in many of them it is greatly superior.

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

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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 surprise will soon cease, if we consider that brutes, guided by instinct, never err in this respect; while man, trusting solely to art, is seldom right. Were a catalogue of those infants who perish annually by art alone, exhibited to public view, it would astonish most people.*

[* It appears from the table of the burials, as published in the bills of mortality annually, between the years 1760 and 1800, a period of forty years, "that the whole number of burials in the cities of London and Westminster, amounted to 836,285;—of this number, 281,408 died before they had attained the age of two years; and that, of the surviving 554,877, (after deducting those who died under two years of age,) 113,393 died before they reached the age of ten years!"

In investigating the reasons of this great mortality among children, it is quite impossible to conceive, that it may not be traced to some mismanagement of them, since it is utterly inconsistent with the uniform goodness of the Creator, to suppose that so many children are brought into the world, only that they may die at an early period of their existence.

If parents are above taking care of their children, others must be employed for that purpose: these will always endeavour to recommend themselves by the appearance of extraordinary skill and address. By this means, such a number of unnecessary and destructive articles have been introduced into the diet, clothing, &c. of infants, that it is no wonder so many of them perish.

Nothing can be more preposterous than a mother who thinks it below her to take care of her own child, or who is so ignorant as not to know what is proper to be done for it. If we search nature throughout, we cannot find a parallel to this. Every other animal is the nurse of its own offspring, and they thrive accordingly. Were the brutes to bring up their young by proxy, they would share the same fate with those of the human species.

We mean not, however, to impose it as a task upon every mother to suckle her own child. This, whatever speculative writers may allege, is in some cases impracticable, and would inevitably prove destructive both to the mother and child. Women of delicate constitutions, subject to hysteric fits, or other nervous affections, make very bad nurses: I have known an hysteric woman kill her child, by being seized with a fit in the night; 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

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The severity of the winters, the general variableness of the climate, and the improvident exposure of young children to cold, without sufficient attention to clothing, lay the foundation of many diseases, which prove fatal to them, (in some instances very rapidly,) as, inflammation of the contents of the chest, and of the throat. The last affection, in its most violent state, has acquired the name of croup, a disease which sometimes destroys in a few hours.

It is a subject of very common observation, that children, who have been inured to cold, and brought up hardily, are the strongest in adult age, and this has induced many parents to expose their children thinly clad to all the severities of weather. It is in part true, since children, who survive the seasoning, are generally strongest. The original strength of their constitution probably enabled them to bear it in the first instance, and, if they are able to encounter it in early life, they will lose in some measure the susceptibility of being readily affected by changes of temperature afterwards. But all medical men, who have had opportunities of attending much to the diseases of children, must have observed, that those families in which children are least exposed to cold in winter, are generally most healthy; whilst those, who act on the erroneous principle of hardening them, by the exposure of their tender bodies to severe weather, are scarcely ever free from diseases of some kind.

Disorders, which might otherwise have remained dormant, are thus brought into activity by this mode of treating children: and many fall

how far many mothers deviate from her dictates, will not be surprised to find some of them unable to perform that necessary office. Mothers who do not eat a sufficient quantity of solid food, nor enjoy the benefit of free air and exercise, can neither have wholesome juices themselves, nor afford proper nourishment to an infant. Hence children who are suckled by delicate women, either die young, or continue weak and sickly all their lives.

When we say that mothers are not always in a condition to suckle their own children, we would not be understood as discouraging that practice. Every mother who can, ought certainly to perform so tender and agreeable an office. But suppose it to be out of her power, she may, nevertheless, be of great service to her child. The business of nursing is by no means confined to giving suck. To a woman who abounds with milk, this is the easiest part of it. Numberless other offices are necessary for a child, which the mother ought at least to see done. Many advantages would arise to society, as well as to individuals, from mothers suckling their own children. It would prevent the temptation which poor women are laid under of abandoning their children, to suckle those of the rich for the sake of gain; by which means society loses many of its most useful members, and mothers become in some sense the murderers of their own offspring. I am sure I speak within the truth, when I say, that not one in twenty of those children live, who are thus abandoned by their mothers. For this reason, no mother should be allowed to suckle another's child till her own is either dead or fit to be weaned. A regulation of this kind would save many lives among the poorer sort, and could do no hurt to the rich, as most women who

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sacrifices to pulmonary consumptions and scrofulous complaints in more advanced life, from this error alone, of being exposed in childhood to cold, with the intention of being made strong and hardy.

The present fashion of clothing young children, founded upon the same erroneous notion of hardening them, is also very injurious to their health. Their arms and chests are entirely uncovered. They generally wear no stockings at all: and, from the stomach downwards, they are almost in a state of nakedness, even in winter.

To rebut the force of these observations, which are adduced in confirmation of the excellent remarks of the author, it may be asked, What becomes of the children of the poor? This mode of getting rid of a difficulty by putting a question, is very easy, and very imposing upon ignorant persons, who have bestowed little attention on this subject. But if they will inquire, they will find that a large proportion of the deaths in the bills of mortality, are among the offspring of this extensive and valuable class of the community, especially in large cities and towns. Their death, however, makes no noise, and therefore little impression is made on the public at large, on account of the obscurity of their station.

In large cities, and manufacturing towns, bad air, crowded apartments, want of cleanliness, and inattention, become additional causes of disease, and ultimately of death.—Ed.]

make good nurses, are able to suckle two children in succession upon the same milk.

A mother who abandons the fruit of her womb, as soon as it is born, to the sole care of an hireling, hardly deserves that name. A child, by being brought up under the mother's eye, not only secures her affection, but may reap all the advantages of a parent's care, though it be suckled by another. How can a mother be better employed than in superintending the nursery? This is at once the most delightful and important office; yet the most trivial business or insipid amusements are often preferred to it! A strong proof both of the bad taste and wrong education of modern females.

It is indeed to be regretted, that more care is not bestowed in teaching the proper management of children to those whom Nature has designed for mothers. This, instead of being made the principal, is seldom considered as any part of female education. Is it any wonder, when females so educated come to be mothers, that they should be quite ignorant of the duties belonging to that character? However strange it may appear, it is certainly true, that many mothers, and those of fashion too, are as ignorant, when they have brought a child into the world, of what is to be done for it, as the infant itself. Indeed, the most ignorant of the sex are generally reckoned most knowing in the business of nursing. Hence, sensible people become the dupes of ignorance and superstition; and the nursing of children, instead of being conducted by reason, is the result of whim and caprice.

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.

Were the time that is generally spent by females in the acquisition of trifling accomplishments, employed in learning how to bring up their children; how to dress them so as not to hurt, cramp, or confine their motions; how to feed them with wholesome and nourishing food; how to exercise their tender bodies, so as best to promote their growth and strength: were these made the objects of female instruction, mankind would derive the greatest advantages from it. But while the education of females implies little more than what relates to dress and public show, we have nothing to expect from them but ignorance, even in the most important concerns.

Did mothers reflect on their own importance, and lay it to

heart, they would embrace every opportunity of informing themselves of the duties which they owe to their infant offspring. It is their province, not only to form the body, but also to give the mind its most early bias. They have it very much in their power to make men healthy, or valetudinary, useful in life, or the pests of society.

But the mother is not the only person concerned in the management of children. The father has an equal interest in their welfare, and ought to assist in every thing that respects either the improvement of the body or mind.

It is pity that the men should be so inattentive to this matter. Their negligence is one reason why females know so little of it. Women will ever be desirous to excel in such accomplishments as recommend them to the other sex. But men generally keep at such a distance from even the smallest acquaintance with the affairs of the nursery, that many would reckon it an affront, were they supposed to know any thing of them. Not so, however, with the kennel or the stables: a gentleman of the first rank is not ashamed to give directions concerning the management of his dogs or horses, yet would blush were he surprised in performing the same office for that being who derived its existence from himself, who is the heir of his fortunes, and the future hope of his country.

Nor have physicians themselves been sufficiently attentive to the management of children: this has been generally considered as the sole province of old women, while men of the first character in physic have refused to visit infants even when sick. Such conduct in the faculty has not only caused this branch of medicine to be neglected, but has also encouraged the other sex to assume an absolute title to prescribe for children in the most dangerous diseases. The consequence is, that a physician is seldom called till the good women have exhausted all their skill; when his attendance can only serve to divide the blame, and appease the disconsolate parents.

Nurses should do all in their power to prevent diseases; but when a child is taken ill, some person of skill ought immediately to be consulted. The diseases of children are generally acute, and the least delay is dangerous.

Were physicians more attentive to the diseases of infants, they would not only be better qualified to treat them properly when sick, but likewise to give useful directions for their management when well. The diseases of children are by no means so difficult to be understood as many imagine. It is true, children cannot tell their complaints; but the causes of them may be pretty certainly discovered by observing the symptoms, and putting proper questions to the nurses. Besides, the diseases of infants being less complicated, are easier cured than those of adults.

It is really astonishing, that so little attention should in general be paid to the preservation of infants. What labour and expense are daily bestowed to prop an old tottering carcase for a few years, while thousands of those who might be useful in life, perish without being regarded! Mankind are too apt to value things according to their present, not their future, usefulness. Though this is of all others the most erroneous method of estimation; yet upon no other principle is it possible to account for the general indifference with respect to the death of infants.*

Of Diseased Parents.

One great source of the diseases of children is, the UNHEALTHINESS OF PARENTS. It would be as reasonable to expect a rich crop from a barren soil, as that strong and healthy children should be born of parents whose constitutions have been worn out with intemperance or disease.

An ingenious writer observes, that on the constitution of mothers depends originally that of their offspring. No one who believes this, will be surprised, on a view of the female world, to find diseases and death so frequent among children A delicate female, brought up within doors, an utter stranger to exercise and open air, who lives on tea and other slops, may

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[* The great mortality of young children is, however, not alone referrable to the variableness or severity of climate, exposure to cold, to bad air, to improper clothing, to the prevalence of contagious disorders, nor to a defect in legislative enactments and restrictions. Children are liable to many disorders, which, if not peculiar to themselves, are very much modified by the circumstances of infancy and childhood, and which will often prove dangerous, and even sometimes fatal, notwithstanding the best care and attention. Moreover, some disorders are exclusively confined to the early periods of life, which require as much skill in the investigation and treatment, as any of the diseases of more advanced age. From the want of skill and experience (such diseases, being either not understood, or improperly treated) many lives are lost, which might have been preserved to their parents and the community. Important as the attention to the diseases of children confessedly is, no part of medicine (to use no stronger expression) has been so little cultivated. In all the works of all the best writers, from the age of Hippocrates to the present, inclusive, scarcely any practical information is to be found upon this subject, unless a few scattered and detached observations may be so considered; and it may be safely asserted, that the observations of the ingenious author of this work contains almost all that is valuable for the prevention of infantile diseases. In this country, the practice of the healing art is divided between physicians and surgeons; the latter of whom, till of late years, were very little acquainted with medicine. Women were principally employed in the practice of midwifery, and surgeons were called to cases of mere mechanical difficulty, and seldom saw the patient afterwards. The establishment of the royal college of physicians appeared very likely to remedy the prevailing ignorance of the persons practising midwifery, (as the members of it, by their charter, have a right to practise both surgery and medicine,) and to

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 should not spoil the best constitution: and did the evil terminate here, it would be a just punishment for the folly of the sufferer; but when once a disease is contracted and riveted in the habit, it is entailed on posterity. What a dreadful inheritance is the gout, the scurvy, or the king's evil, to transmit to our offspring! how happy had it been for the heir of many a great estate, had he been born a beggar, rather than to inherit his father's fortunes at the expense of inheriting his diseases!

A person labouring under any incurable malady ought not to marry. He thereby not only shortens his own life, but transmits misery to others; but when both parties are deeply tainted with the scrofula, the scurvy, or the like, the effects must be still worse. If such have any issue, they must be miserable indeed. Want of attention to these things, in forming 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.*

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enlarge the knowledge of the diseases of women and children. But there seems to have been a fatality on this point, and that women and children should not have a reasonable chance of relief in the diseases of childbirth and of early life. It would hardly be believed possible in a civilized land, if it did not stand recorded in the by-laws of the college, that any persons at any time could have had sufficient influence upon so learned a body, (and who were, therefore, less liable to prejudice,) to induce a majority of them to accede to a prohibitory by-law, by which the fellows of the college are compelled to exclude themselves from practising midwifery, and therefore from acquiring much knowledge of the diseases of infants and children. "It seems (observes a late writer, and a member of that body,) to be a law calculated for the perpetuation of ignorance, by preventing men of the best education, and the highest attainments in learning, from adding to the stock of medical knowledge on subjects most dear and important to society." While such disgraceful regulations continue unrepealed, and those who legislate continue to oppose all attempts at "medical reform," is it a strange matter that this department of the medical profession is so lamentably and so glaringly overlooked?—Ed.]

* 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.

In our matrimonial contracts, it is amazing so little regard is had to the health and form of the object. Our sportsmen know that the generous courser cannot be bred out of the foundered jade, nor the sagacious spaniel out of the snarling cur. This is settled upon immutable laws. The man who marries a woman of a sickly constitution, and descended of unhealthy parents, whatever his views may be, cannot be said to act a prudent part. A diseased woman may prove fertile; should this be the case, the family must become an infirmary: what prospect of happiness the father of such a family has, we shall leave any one to judge.*

Such children as have the misfortune to be born of diseased parents, will require to be nursed with greater care than others. This is the only way to make amends for the defects of constitution; and it will often go a great length. A healthy nurse, wholesome air, and sufficient exercise, will do wonders. But when these are neglected, little is to be expected from any other quarter. The defects of constitution cannot be supplied by medicine.

Those who inherit any family disease ought to be very circumspect in their manner of living. They should consider well the nature of such disease, and guard against it by a proper regimen. It is certain, that family diseases have often, by proper care, been kept off for one generation; and there is reason to believe, that, by persisting in the same course, such diseases might at length be wholly eradicated. This is a subject very little regarded, though of the greatest importance. Family constitutions are as capable of improvement as family estates; and the libertine who impairs the one, does greater injury to his posterity than the prodigal who squanders the other.

Of the Clothing of Children.

The clothing of an infant is so simple a matter, that it is surprising how any person should err in it; yet many children lose their lives, and others are deformed, by inattention to this article.

Nature knows of no use of clothes to an infant, but to keep it warm. All that is necessary for this purpose, is to wrap it in a soft loose covering. Were a mother left to the dictates of nature alone, she would certainly pursue this course. But the business of dressing an infant has long been out of the

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* The Jews, by their laws, were, in certain cases, forbid 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 forbid to marry. This is an evil of a complicated kind. a natural deformity, and political mischief; and therefore requires a public consideration.

hands of mothers, and has at last become a secret which none but adepts pretend to understand.

From the most early ages it has been thought necessary, that a woman in labour should have some person to attend her. This in time became a business; and, as in all others, those who were employed in it strove to outdo one another in the different branches of their profession. The dressing of a child came of course to be considered as the midwife's province; who no doubt imagined, that the more dexterity she could shew 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 shew of the infant as soon as it was born, were ambitious to have as much finery heaped upon it as possible. Thus it came to be thought as necessary for a midwife to excel in bracing and dressing an infant, as for a surgeon to be expert in applying bandages to a broken limb; and the poor child, as soon as it came into the world, had as many rollers and wrappers applied to its body, as if every bone had been fractured in the birth; while these were often so tight, as not only to gall and wound its tender frame, but even to obstruct the motion of the heart, lungs, and other organs necessary to life.

In most parts of Britain, the practice of rolling children with so many bandages is now, in some measure, laid aside; but it would still be a difficult task to persuade the generality of mankind, that the shape of an infant does not entirely depend on the care of the midwife. So far, however, are all her endeavours to mend the shape from being successful, that they constantly operate the contrary way, and mankind become deformed in proportion to the means used to prevent it. How little deformity of body is to be found among uncivilized nations! So little indeed, that it is vulgarly believed they put all their deformed children to death. The truth is, they hardly know such a thing as a deformed child. Neither should we, if we followed their example. Savage nations never think of 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

* A friend of mine, who was several years on the coast of Africa, tells me, that the natives neither put any clothes upon their children, nor apply to their bodies bandages of any kind, but lay them on a pallet, and suffer them to tumble about at pleasure; yet they are all straight, and seldom have any disease.

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 all pressure. They cannot indeed tell their complaints, but they can shew 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 children, has formed their bodies soft and flexible; and lest they should receive any injury from pressure in the womb, has surrounded the *fœtus* every where with fluids. This shews the care which nature takes to prevent all unequal pressure on the bodies of infants, and to defend them against every thing that might in the least cramp or confine their motions.

Even the bones of an infant are so soft and cartilaginous, that they readily yield to the slightest pressure, and easily assume a bad shape, which can never after be remedied. Hence it is, that so many people appear with high shoulders, crooked spines, and flat breasts, who were as well-proportioned at their births as others, but 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 cir-

culation of the whole mass of blood through the lungs, respiration, the peristaltic motion, &c. afford another strong argument for keeping the body of an infant free from all pressure. These organs, not having been accustomed to move, are easily stopped; but when this happens, death must ensue. Hardly any method could be devised more effectually to stop these motions, than bracing the body too tight with rollers* and bandages. Were these to be applied in the same manner to the body of an adult for an equal length of time, they would hardly fail to hurt the digestion, and make him sick. How much more hurtful they must prove to the tender bodies of infants, we shall leave any one to judge.

Whoever considers these things, will not be surprised that so many children die of convulsions soon after the birth. These fits are generally attributed to some inward cause; but, in fact, they oftener proceed from our own imprudent conduct. I have known a child seized with convulsion-fits soon after the midwife had done swaddling it, who, upon taking off the rollers and bandages, was immediately relieved, and never had the disease afterwards. Numerous examples of this might be given, were they necessary.

It would be safer to fasten the clothes of an infant with strings than pins, as these often gall and irritate their tender skins, and occasion disorders. Pins have been found sticking above half an inch into the body of a child, after it had died of convulsion fits, which in all probability proceeded from that cause.

Children are not only hurt by the tightness of their clothes, but also by the quantity. Every child has some degree of fever after the birth; and if it be loaded with too many clothes, the fever must be increased. But this is not all; the child is generally laid in bed with the mother, who is often likewise feverish: to which we may add the heat of the bedchamber, 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

* 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.

remain weak and flaccid for life; hence proceed coughs, consumptions, and other diseases of the breast.

It would answer little purpose to specify the particular species of dress proper for an infant. These will always vary in different countries, according to custom and the humour of parents. The great rule to be observed is, *That a child have no more clothes than are necessary to keep it warm, and that they be quite easy for its body.*

Stays are the very bane of infants. A volume would not suffice to point out all the bad effects of this ridiculous piece of dress, both on children and adults. The madness in favour of stays seems, however, to be somewhat abated; and it is to be hoped the world will, in time, become wise enough to know, that the human shape does not solely depend upon whale-bone 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 that means, frees the body from superfluous humours, which, if retained, could not fail to occasion diseases. No mother or nurse can have any excuse for allowing a child to be dirty. Poverty may oblige her to give it coarse clothes; but if she does not keep them clean, it must be her own fault.

Of the Food of Children.

Nature not only points out the food proper for an infant, but actually prepares it. This, however, is not sufficient to prevent some, who think themselves wiser than nature, from attempting to bring up their children without her provision. Nothing can shew the disposition which mankind have to depart from nature, more than their endeavouring to bring up children without the breast. The mother's milk, or that of a healthy nurse, is unquestionably the best food for an infant.

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* 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

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, shews an inclination to suck; and there is no reason why it should not be gratified. It is true, the mother's milk does not always come immediately after the birth; but this is the way to bring it: besides, the first milk that the child can squeeze out of the breast answers the purpose of cleansing, better than all the drugs in the apothecary's shop, and at the same time prevents inflammations of the breast, fevers, and other diseases incident to mothers.

It is strange how people came to think that the first thing given to a child should be drugs. This is beginning with medicine 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. Midwifes have improved upon this hint, and never fail to give syrups, oils, &c. whether they be necessary or not. Cramming an infant with such indigestible stuff as soon as it is born, can hardly fail to make it sick, and is more likely to occasion diseases than to prevent them. Children are seldom long after the birth without having passage both by stool and urine; though these evacuations may be wanting for some time without any danger. But if children must have something before they be allowed the breast, let it be a little thin water-pap, to which may be added an equal quantity of new milk; or rather water alone, with the addition of a little raw sugar. If this be given without any wines or spiceries, it will neither heat the blood, load the stomach, nor occasion gripes.

Upon the first sight of an infant, almost every person is struck with the idea of its being weak, feeble, and wanting support. This naturally suggests the need of cordials. Accordingly wines are universally mixed with the first food of children. Nothing can be more fallacious than this way of reasoning, or more hurtful to infants than the conduct founded upon it. Children require very 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 humours.

If the mother or nurse has enough of milk, the child will need little or no other food before 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 shews an inclination to chew; and it may at all times be allowed as much plain bread as it will eat. The very chewing of bread will promote the cutting of the teeth, and the discharge of saliva; while, by mixing with the nurse's milk in the stomach, it will afford an excellent nourishment. Children discover an early inclination to chew whatever is put into their hands. Parents observe the inclination, but generally mistake the object. Instead of giving the child something which may at once exercise its gums and afford it nourishment, they commonly put into its hands a piece of hard metal, or impenetrable coral. A crust of bread is the best gum-stick. It not only answers the purpose better than any thing else, but has the additional properties of nourishing the child, and of carrying the saliva down into the stomach, which is too valuable a liquor to be lost.

Bread, besides being used dry, may be many ways prepared into food for children. One of the best methods is to boil it in water, afterwards pouring the water off, and mixing with the bread a proper quantity of new milk unboiled. Milk is both more wholesome and nourishing this way than boiled, and is less apt to occasion costiveness. For a child farther advanced, bread may be mixed in veal or chicken broth, made into puddings, or the like. Bread is a proper food for children at all times, provided it be plain, made of wholesome grain, and well fermented; but when enriched with fruits, sugars, or such things, it becomes very unwholesome.

It is soon enough to allow children animal food, when they have got teeth to eat it. They should never taste it till after they are weaned, and even then they ought to use it sparingly. Indeed, when children live wholly on vegetable food, it is apt to sour on their stomachs; but, on the other hand, too much flesh heats the body, and occasions fevers and other inflammatory diseases. This plainly points out a due mixture of animal and vegetable food as most proper for children.

Few things prove more hurtful to infants than the common method of sweetening their food. It entices them to take more than they ought to do, which makes them grow fat and bloated. It is pretty certain, if the food of children were quite plain, that they would never take more than enough. Their excesses are entirely owing to nurses. If a child be gorged with food at all hours, and enticed to take it, by making it sweet and agreeable to the palate, is it any wonder that such a child should in time be induced to crave more food than it ought to have?

Children may be hurt by too little as well as too much food. After a child is weaned, it ought to be fed four or five times a day, but should never be accustomed to eat in the night; neither should it have too much at a time. Children thrive best with small quantities of food frequently given. This neither overloads the stomach nor hurts the digestion, and is certainly most agreeable to nature.

Writers on nursing have inveighed with such vehemence against giving children too much food, that many parents, by endeavouring to shun that error, have run into the opposite extreme, and ruined the constitutions of their children. But the error of pinching children in their food is more hurtful than the other extreme. Nature has many ways of relieving herself when overcharged; but a child, who is pinched with hunger, will never become a strong or a healthy man. That errors are frequently committed on both sides, we are ready to acknowledge; but where one child is hurt by the quantity of its food, ten suffer from the quality. This is the principal evil, and claims our strictest attention.

Many people imagine, that the food which they themselves love cannot be bad for their children: but this notion is very absurd. In the more advanced periods of life we often acquire an inclination for food, which when children we could not endure. Besides, there are many things that by habit may agree very well with the stomach of a grown person, which would be hurtful to a child: as high-seasoned, salted, and smoke-dried provisions, &c. It would also be improper to feed children with fat meat, strong broths, rich soups, or the like.

All strong liquors are hurtful to children. Some parents teach their children to guzzle ale, and other fermented liquors, at every meal. Such a practice cannot fail to do mischief. These children seldom escape the violence of the small-pox, measles, hooping-cough, or some inflammatory disorder. Milk, water, butter-milk, or whey, are the most proper for children to drink. If they have any thing stronger, it may be fine small beer, or a little wine mixed with water. The stomachs of children can digest well enough, without the assistance of

warm stimulants: besides, being naturally hot, they are easily hurt by every thing of a heating quality.

Few things are more hurtful to children than unripe fruits. They weaken the powers of digestion, and sour and relax the stomach, by which means it becomes a proper nest for insects. Children indeed shew a great inclination for fruit; and I am apt to believe, that if good ripe fruit were allowed them in proper quantity, it would have no bad effects. We never find a natural inclination wrong, if properly regulated. Fruits are generally of a cooling nature, and correct the heat and acrimony of the humours. This is what most children require; only care should be 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 humours, 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 humours. 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 upon slops, it relaxes their solids, renders them weak, and disposes them to the rickets, the scrofula, and other glandular disorders. Relaxation is one of 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

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* 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 upon, 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.

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 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 coëval 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 shews 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

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* 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.

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 forward, and press with their whole weight upon 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 upon 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 proportionally light; and had they skill to direct themselves, they would soon be able to support their own weight. Who ever 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 the birth, and be then set upon 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, obstructions must happen, and the humours will of course be vitiated, which cannot fail to occasion diseases. Nature has furnished both the vessels which carry the blood and

lymph with numerous valves, in order that the action of every muscle might push forward their contents; but without action, this admirable contrivance can have no effect. This part of the animal economy proves to a demonstration the necessity of exercise for the preservation of health.

Arguments to shew the importance of exercise might be drawn from every part of the animal economy; without exercise, the circulation of the blood cannot be properly carried on, nor the different secretions duly performed; without exercise, the fluids cannot be properly prepared, nor the solids rendered strong or firm. The action of the heart, the motion of the lungs, and all the vital functions, are greatly assisted by exercise. But to point out the manner in which these effects are produced, would lead us farther into the economy of the human body, than most of those for whom this treatise is intended would be able to follow. We shall therefore only add, that when exercise is neglected, none of the animal functions can be duly performed; and when this is the case, the whole constitution must go to wreck.

A good constitution ought certainly to be our first object in the management of children. It lays a foundation for their being useful and happy in life: and whoever neglects it, not only fails in his duty to his offspring, but to society.

One very common error of parents, by which they hurt the constitutions of their children, is the sending them too young to school. This is often done solely to prevent trouble. When the child is at school, he needs no keeper. Thus the 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 upon the body; nor is the mind less injured. Early application weakens the faculties, and often fixes in the mind an aversion to books, which continues for life.*

But suppose this were the way to make children scholars, it certainly ought not to be done at the expense of their constitutions. Our ancestors, who seldom went to school very young, were not less learned than we. But we imagine the boy's education will be quite marred, unless he be carried to school in his nurse's arms. No wonder if such hot-bed plants seldom become either scholars or men!

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* It is undoubtedly the duty of parents to instruct their children, at least till they are of an age proper to take some care of themselves. This would tend much to confirm the ties of 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.

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 clothes; and is taught to believe, that to excel at the needle is the only thing that can entitle her to general esteem. It is unnecessary here to insist upon the dangerous consequences of obliging girls to sit too much. They are pretty well known, and are too often felt at a certain time of life. But supposing this critical period to be got over, greater dangers still wait them when they come to be mothers. Women who have been early accustomed to a 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, head-achs, pale complexions, pain of the stomach, loss of appetite, coughs, consumptions of the lungs, and deformity of body. The last of these evils, 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 labour. There are few employments, except sedentary ones, by which children can

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[* We cannot but advert, on this occasion, to the ill-judged practice of mothers, who, with a desire of giving their daughters a fine shape, or of preventing or removing deformity, endeavour to effect it by the fashionable use of stays, and other equally bad means of support. The materials of which these are usually formed, are either whalebone or steel, and therefore yield little to the natural action of the parts to which they are designed to give support. The motion of the intermediate parts of the spine must by this means be greatly circumscribed; the action of the muscles attached to the trunk, impeded; the necessary determination and circulation of blood through their substance, lessened; and, of necessity, their size and power diminished;—thus defeating the object in view, and increasing or perpetuating the deformity they are intended to remedy. The same may be also said of pressure made on the chest by any other similar means, which may impede the free action of the muscles of respiration.

Mr. Grant, a respectable medical practitioner at Bath, suggested, a few years ago, a new mode for removing distortions of the back, viz.—to direct the patient to carry a certain weight on the head for a limited time, daily, for the purpose of producing a frequent and equal action of the muscles of the back. The simplicity of the means of cure, we have, however found, in some patients and their friends, to operate against a fair and sufficient trial of the plan recommended. Some benefit has been received at first,—they have been contented—and have not persevered longer than to arrest the progress of the disease, which has once more gained ground; but on returning to the plan, and persevering in it, a cure has been effected. It is, therefore, necessary that the principle of the cure should be understood by the patient and her friends. The intention of the treatment may be illustrated thus.—If a finger is held up, and bent a little, a weight, being placed on its tip, either will bend it completely, or oblige it to straighten itself, so as to enable it to bear the weight, when applied to it perpendicularly. Thus, the spine being bent in one or more directions, when a weight is added to the head, it directly, and almost instinctively, by the actions of the muscles, straightens itself to bear that weight; and this action often renewed, and persevered in for a moderate time, will recover the spine from the bend, that otherwise must have increased; or, in the attempt to remove it by instruments applied to the pelvis, their weight and that of the body must have affected and distorted that part, the perfect shape of which is important, not merely to the symmetry, but to the life, of the mother, or to the existence of the child.

earn a livelihood; and if they be set to these too soon, it ruins their constitutions. Thus, by gaining a few years from childhood, we generally lose twice as many in the latter period of life, and even render the person less useful while he does live.

In order to be satisfied of the truth of this observation, we need only look into the great manufacturing towns, where we shall find a puny degenerate race of people, weak and sickly all their lives, seldom exceeding the middle period of life; or if they do, being unfit for business, they become a burden to society. Thus arts and manufactures, though they may increase the riches of a country, are by no means favourable to the health of its inhabitants. Good policy would therefore require, that such people as labour during life, should not be set too early to work. Every person conversant in the breed of horses, or other working animals, knows, that if they be set to hard labour too soon, they never will turn out to advantage. This is equally true with respect to the human species.

There are, nevertheless, various ways of employing young

The weight may be used in the following manner: A small footstool, covered with a flat cushion, being inverted, may be placed on the patient's head; the hollow between the feet of the stool will allow of some substance, varying between four and ten pounds in weight; for it may be necessary to increase it to the last amount, although much less is generally sufficient to be placed in it. The patient should be instructed to raise this with both her arms, and support it on the crown of her head; she then, preserving the most erect attitude she can, should walk in a straight line, as soldiers are taught to march, and for a time not exceeding ten minutes: this should be repeated occasionally during the day. By degrees she will learn to balance the weight; and this occasional exertion, giving the muscles their true action, will straighten the spine much more effectually, and sooner, than any mechanical instruments. The patient should be frequently reminded by her attendants to sit upright; and the momentary attempt to do this, even if the attitude cannot be long persevered in, will prove useful in forwarding the recovery. Negro women in the West Indies, and dairy and basket women in this country, who early in life have been accustomed to carry heavy burdens on their heads, are never crooked. This plan of treatment is particularly successful, and, we can say from experience, superior to any other; and if persevered in, those mischievous instruments, which tend to the destruction of life, under the pretence of preventing the appearance of deformity, need never be resorted to.

The use of the cold and shower bath will aid the effect of the above exercise. In children, a large towel dipped in cold spring water, (in which a moderate quantity of common salt is dissolved,) and allowed to fall from the back part of the head to the lower part of the trunk, will answer as a good substitute for the bath. The patient should be immediately afterwards well dried, and gentle friction used for some little time on the skin, in the direction of the spine. In diseases of the back and joints, diligent friction on the part, once or twice every day, according to circumstances, in the manner recommended by Mr. Grosvenor of Oxford, is known to produce very beneficial effects.—Ed.]

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 always be 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 greatly 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 long 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 clothes dipt in the water upon the child, and either put it to bed, or suffer it to go about in that condition. Some believe, that the whole virtue of the water depends upon its being dedicated to a particular saint; while others place their confidence in a certain number of dips, as three, seven, nine, or the like; and the world could not persuade them, if these do not succeed, to try it a little longer. Thus, by the whims of nurses, children lose the benefit of the cold bath, and the hopes of the physician from that medicine are often frustrated.

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* 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 upon Children.

Few things prove more destructive to children than confined or unwholesome air. This is one reason why so few of those infants, who are put into hospitals, or parish workhouses, live. These places are generally crowded with old, sickly, and infirm people; by which means the air is rendered so extremely pernicious, that it becomes a poison to infants.

Want of wholesome air is likewise destructive to many of the children born in great towns. There the poorer sort of inhabitants live in low, dirty, confined houses, to which the fresh air has scarcely any access. Though grown people, who are hardy and robust, may live in such situations, yet they generally prove fatal to their offspring, few of whom arrive at maturity, and those who do are weak and deformed. As such people are not in a condition to carry their children abroad into the open air, we must lay our account with losing the greater part of them. But the rich have not this excuse. It is their business to see that their children be daily carried abroad, and that they be kept in the open air for a sufficient time. This will always succeed better, if the mother goes along with them. Servants are often negligent in these matters, and allow a child to sit or lie on the damp ground, instead of leading or carrying it about. The mother surely needs air as well as her children; and how can she be better employed than in attending them?

A very bad custom prevails, of making children sleep in small apartments, or crowding two or three beds into one chamber. Instead of this, the nursery ought always to be the largest and best aired room in the house. When children are confined in small apartments, the air not only becomes unwholesome, but the heat relaxes their solids, renders them delicate, and disposes them to colds and many other disorders. Nor is the custom of wrapping them up too close in cradles less pernicious. One would think that nurses were afraid lest children should suffer by breathing free air, as many of them

actually cover the child's face while asleep, and others wrap a covering over the whole cradle, by which means the child is forced to breathe the same air over and over all the time it sleeps. Cradles indeed are on many accounts hurtful to children, and it would be better if the use of them were totally laid aside.*

A child is generally laid to sleep with all its clothes on; and if a number of others are heaped above them, it must be overheated; by which means it cannot fail to catch cold on being taken out of the cradle, and exposed to the open air with only its usual clothing, which is too frequently the case.

Children who are kept within doors all day, and sleep all night in warm close apartments, may, with great propriety, be compared to plants, nursed in a hot-house, instead of the open air. Though such plants may by this means be kept alive for some time, they will never arrive at that degree of strength, vigour, and magnitude, 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 often known the most obstinate diseases cured by removing them from such a situation to an open free air.

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* 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.

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 good-natured, 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 stupefactives, 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, 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.†

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,

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* I have often known people so imposed upon, 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.

instead of nourishing an infant, never fail to produce the contrary effect.

Children are often hurt by nurses suffering them to cry long and vehemently. This strains their tender bodies, and frequently occasions ruptures, inflammations of the throat, lungs, &c. A child never continues to cry long without some cause, which might always be discovered by proper attention; and the nurse who can hear an infant cry till it has almost spent itself, without endeavouring to please it, must be cruel indeed, and is unworthy to be intrusted with the care of a human creature.

Nurses who deal much in medicine are always to be suspected. They trust to it, and neglect their duty. I never knew a good nurse, who had her Godfrey's cordial, Daffy's elixir, Dalby's carminative, &c. at hand. Such 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 humours, by throwing them upon the skin: by this means fevers and other diseases are prevented. Nurses are apt to mistake such critical eruptions for an itch, or some other infectious disorder. Accordingly, they take every method to drive them in. In this way many children lose their lives; and no wonder, as nature is opposed in the very method she takes to relieve them. It ought to be a rule, which every nurse should observe, never to stop any eruption without proper advice, or being well assured that it is not of a critical nature. At any rate, it is never to be done without previous evacuations.

Loose stools is another method by which nature often prevents or carries off the diseases of infants. If these proceed too far, no doubt they ought to be checked; but this is never to be done without the greatest caution. Nurses, upon the first appearance of loose stools, frequently fly to the use of astringents, or such things as bind the body. Hence inflammatory fevers, and other fatal diseases, are occasioned. A dose of rhubarb and magnesia, 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 limbs, 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. *Armstrong.*

Few things tend more to the destruction of children than drenching them with drugs. That medicine may be *sometimes* necessary for children, I do not deny; but that it hurts them ten times for once it does them good, I will venture to assert. A London mother, the moment her child seems to ail any thing, runs immediately to the apothecary, who throws in his powders, pills, and potions, till the poor infant is poisoned; when the child might have been restored to perfect health by a change of diet, air, exercise, clothing, or some very easy and simple regulation, which a candid physician would suggest.

But misguided fondness is not satisfied with drugging children from the apothecary's shop: many of them are *fed* from the same quarter. A starch from the West Indies, called *flour of arrow-root*, is the food of those infants whose parents can afford to pay for it. I lately offended a mother very much by saying, it was not half so good as oatmeal, though more than ten times the price. Of this, however, she had sufficient

proof by a child in her arms, who had been fed on that root, and, though a year and a half old, could scarcely put a foot to the ground; while her neighbour's child, only nine months old, but nursed in the north-country manner, could, by a hold of the finger, run all over the house.

I have taken notice of this powder, to shew 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!

[We avail ourselves of this opportunity, to bear our testimony to these practical anathemas of our author, against the silly custom of the age.—Ed.]

CHAP. II.

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 favourable 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 endeavour 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.

Chymists, founders, forgers, glass-makers, and several other artists, are hurt by the unwholesome air which they are obliged to breathe. This air is not only loaded with the noxious exhalations arising from metals and minerals, but is so charged with impurity 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.

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

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

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

[† Sir H. Davy's "safety lamp" is a modern invention of considerable importance, and almost universally employed in coal mines.—Ed.]

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 neighbourhood.

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

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

Such as bear heavy burdens, as porters, labourers, &c. are obliged to draw in the air with much greater force, and also to keep their lungs distended with more violence than is necessary for common respiration: by this means the tender vessels of the lungs are over-stretched, 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 labour, or feats of activity. It is rare to find one who boasts of his strength without a rupture, a spitting of blood, or some other disease, which he reaps as the fruit of his folly. 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.

There are indeed some employments which necessarily require a great exertion of strength; as 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 erysipelas, 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 labour without doors always to guard against these inconveniences; but it is known from experience, that their ill consequences might often be prevented by proper care.

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

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

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

Labourers in the hot season are apt to lie down and sleep in the sun. This practice is so dangerous, that they often awake in a burning fever. These ardent fevers, which prove so fatal about the end of summer and beginning of autumn, are frequently occasioned by this means. When labourers leave off

work, which they ought always to do during the heat of the day, they should go home, or at least get under some cover, where they may repose themselves in safety.

Many people follow their employments in the fields from morning till night, without eating any thing. This cannot fail to hurt their health. However homely their fare be, they ought to have it at regular times; and the harder they work, the more frequently they should eat. If the humours 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 upon one meal a day in indolence, rather than labour, though it were to procure them the greatest affluence.

Fevers, of a very bad kind, are often occasioned among labourers by *poor living*. When the body is not sufficiently nourished, the humours become vitiated, and the solids weak; from 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 upon a good pasture. This shews how much a good state of the humours depends upon a sufficient quantity of proper nourishment.

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

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

Sailors may also be numbered among the laborious. They undergo great harships from change of climate, the violence of the weather, hard labour, bad provisions, &c. Sailors are of so great importance both to the trade and safety of this kingdom, that too much pains can never be bestowed in pointing out the means of preserving their lives.

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

Sailors, when on duty, cannot avoid sometimes getting wet. When this happens, they should change their clothes as soon as they are relieved, and take every method to restore the per-

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* 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 labour lowered, public works, as harbours, 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 martial spirit, provided the men were only to work four or five hours every day, and always to work without doors: no soldiers 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.

spiration. 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 immediatety to bed, where a sound sleep and a gentle sweat would set all to rights.

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

Stale bread and beer likewise contribute to vitiate the humours. Flour will keep 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 cider might likewise be plentifully laid in; and should they turn sour, they would still be useful as vinegar. Vinegar is a great antidote against diseases, and should be used by all travellers, especially at sea. It may either be mixed with the water they drink, or taken in their food.

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

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

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* Our countryman, the celebrated Captain Cook, has shewn 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.

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 snake-root 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, and, in manufacturing countries, the major part of the males, 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 shews what an immense increase of inhabitants Britain might admit of, and all of them 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 to-morrow. This can never happen to those who cultivate the ground. They can eat the fruit of their labour, and can always by industry obtain, at least, the necessaries of life.

Though sedentary employments are necessary, yet there

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

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 stay-makers, 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 likewise to waste the air, and render it less fit for respiration. Air that is breathed repeatedly becomes unfit for expanding the lungs. 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 one 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, flatulences, head-ache, pains of the breast, &c.

The aliment in sedentary people, instead of being pushed forwards by an erect posture, and the action of the muscles, is in a manner confined in the bowels. Hence indigestions, costiveness, wind, and other hypochondriacal affections, 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 into the mass of humours.

A bending posture is likewise hurtful to the lungs. When

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* A person of observation in that line of life told me, that most tailors die of consumptions; which he attributed chiefly to the unfavourable 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.

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

The sedentary are not only hurt by pressure on the bowels, but also on 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 humours are, by stagnation, vitiated, and the perspiration is obstructed; whence proceed the scab, ulcerous sores, foul blotches, and other cutaneous diseases, so common among sedentary artificers.

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

A sedentary life seldom fails to occasion an universal relaxation of the solids. This is the great source from 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 those evils, because many who have been accustomed to a sedentary life, like rickety children, lose all inclination for exercise: we shall, however, throw out a few hints with respect to the most likely means for preserving the health of this useful set of people, which some of them, we hope, will be wise enough to take.

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

Sedentary artificers are generally allowed too little time for exercise; yet, short as it is, they seldom employ it properly. A journeyman tailor or weaver, for example, instead of walking

abroad for exercise and fresh air, at his hours of leisure, chooses often to spend them in a public-house, or in playing at some sedentary game, by which he generally loses both his time and his money.

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

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

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

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.

Labouring 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 of 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 quicken the circulation, and promote all the secretions; whereas sadness

and profound thought never fail to retard them. Hence it would appear, that even a degree of thoughtlessness is necessary to health. Indeed, the perpetual thinker seldom enjoys either health or spirits; while the person who can hardly be said to think at all, generally enjoys both.

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

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 endeavour 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 humours 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 that organ can hardly fail to be the consequence of inactivity. Hence sedentary people are frequently afflicted with scirrhous 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 breast-bone in such a manner as to obstruct the motion of the heart, and occasion his death. The only probable cause that could be assigned for this singular symptom was, that the man, whose business was writing, used constantly to sit in a bending posture, with his breast pressing 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 humours become crude and vitiated, the solids weak and relaxed, and the whole constitution goes to ruin.

Long and intense thinking often occasions grievous headachs, 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 humours which ought to be carried off in this way. Any person may observe, that sitting makes his legs swell, and that this goes off by exercise; which clearly points out the method of prevention.

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 humours, a defect of the usual secretions, or a debility of the nervous system, which may not be induced by intense think.

But the most afflicting of all the diseases which attack the

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

Hardly any thing can be more preposterous than for a person to make study his sole business. A mere student is seldom an useful member of society. He often neglects the most important duties of life, in order to pursue studies of a very trifling nature. Indeed, it rarely happens that any useful invention is the effect of mere study. The farther 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 thought as to make them forget the business of the closet. A solitary ride or walk are so far from relaxing the mind, that they rather encourage thought. Nothing can divert the mind when it gets into a train of serious thinking, but attention to subjects of a more trivial nature. These prove a kind of play to the mind, and consequently relieve it.

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 that 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 application to study 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 all-cheering 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 a 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 that science as to amuse himself after severe thought by playing such airs as have a tendency to raise the spirits, and inspire cheerfulness and good humour.

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

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

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

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

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

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

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 thereby attenuated or condensed, rendered mild or acrimonious, coagulated or diluted, almost to 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 shew, 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 shew 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 farther consideration. There are many ways by which provisions may be rendered unwholesome. Bad seasons may either prevent the ripening of grain, or damage it afterwards. These, indeed, are 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 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 humours, and oppression of the spirits, in those who feed upon them.

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 over-drive their cattle. No person would choose to eat the flesh of an animal which had died in a high fever; yet that is the case with all over-drove cattle; and the fever is often raised even to the degree of madness.

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

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 spoiled in this way. Perhaps that 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 troubled with 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 the twenty-four 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 humours 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 bye, are the greatest tea-drinkers, cannot eat any thing in the morning. If such persons, after fasting ten or twelve hours, drink four or five cups of green tea without eating almost any

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[* The above observation is just, but only applicable to the true scurvy, when it occurs at sea in long voyages. The disease improperly termed scurvy in this country, is a much milder, and, we may add, a very different disease.—Ed.]

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

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

The common methods of rendering water clear by filtration, or soft by exposing it to the sun and air, &c. are so generally

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

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 endeavour 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 labour could not be supported without drinking strong liquors; this is a very erroneous notion. Men who never taste strong liquors are not ony 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 that is the case, they must either be drank new, or they become sour and dead: when such liquors are drank new, the fermentation not being over, they generate air in the bowels, and occasion flatulencies; and when kept till stale, they turn sour on the stomach, and hurt digestion. For this reason, all malt liquors, cider, &c. ought to be of such strength as to keep till they be ripe, and then they should be used. When such liquors are kept too long, though they should not become sour, yet they generally contract a hardness which renders them unwholesome.

All families, who can, ought to prepare their own liquors. Since preparing and vending of liquors became one of the most general branches of business, every method has been tried to adulterate them. The great object both to the makers and venders of liquor is, to render it intoxicating, and give it the appearance of age. But it is well known that this may be done by other ingredients than those which ought to be used for making it strong. It would be imprudent even to name those

things which are daily made use of to render liquors heady. Suffice it to say, that the practice is very common, and that all the ingredients used for this purpose are of a narcotic or stupefactive quality. But as all opiates are poisonous, it is easy to see what must be the consequence of their general use. Though they do not kill suddenly, yet they hurt the nerves, relax and weaken the stomach, and spoil the digestion.*

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

[* Mr. Accum's book, entitled "Death in the Pot," though greatly exaggerated, no doubt, is acknowledged to contain many truths. It cannot, indeed, be denied, that a great part of our daily food, and a still greater portion of our luxuries, are the constant objects of fraudulent adulteration. Nor can we hope for amendment, while the temptations remain so excessive, the detection so difficult, and the punishment so indequate to the crime; above all, while the trouble and expense of prosecution continue to be so disproportioned to the injury sustained by any individual. The adulteration of bread by alum has excited much alarm among the community; but, for our own parts, we cannot believe that the quantity (ten or fifteen grains in the quartern loaf) can have any prejudicial influence on the most delicate constitution. The adulteration by gypsum, pipe-clay, and chalk, is a much more serious evil. It is admitted that there is no unexceptionable test for the detection of alum in bread, since there are impurities in the salt used by the bakers, sufficient to throw down precipitates like those we might attribute to alum.—In respect to beer and porter, they have the name of being strongly adulterated; perhaps not so much in the caldrons of the brewers, as in the barrels of the publican. "The following are the most usual additions made by the publicans: *Beer-heading*, which is intended to impart the 'cauliflower head,' and consists of sulphate of iron, common salt, and alum, for which several convictions have taken place, (see the Minutes of the Committee:) it is necessary to observe that the addition of this 'heading' is made with a view to restore the property of frothing to the porter, which has been destroyed by dilution with table beer. The extract of the berries of the *Cocculus Indicus*, possessing properties eminently narcotic, is added for a purpose too obvious to require explanation, and is regularly sold by the brewers' druggists, under the technical appellation of '*Black Extract.*' There is also another preparation for a similar object, sold under the name of '*Bittern*,' and which is a compound of black extract, extract of quassia, Spanish liquorice, and calcined sulphate of iron. '*Multum*,' used as a substitute for malt and hops, consists of extract of quassia, and liquorice. We must close this note, by expressing our regret at the little assistance to be derived from chemistry in the detection of such frauds: mineral substances, as sulphate of iron, or any of the mineral acids, can certainly be recognized in our laboratories; but when we attempt to identify vegetable principles, the resources of analysis completely fail."——Before we refer the curious, who desire further information, to the work itself, we may remark, that a gentleman who had perused Accum's book, jocosely observed one day, that he wished he had not read it, because now he could not eat or drink with any comfort, imagining he saw "death in *every* pot."—Ed.]

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 radish, garlic, spices, or such things as are heating, and promote perspiration and urine. Their drink should be water, coffee, tea, or the like; and they ought to take much exercise and little sleep.

Those who are too lean must follow an opposite course.

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

The diet ought not only to be suited to the age and constitution, but also to the manner of life: a sedentary or studious person should live more sparingly than one who labours hard without doors. Many kinds of food will nourish a peasant very

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

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 upon 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 over-distended with food, they lose their proper tone, and, by long fasting, they become weak, and inflated with wind. Thus, either gluttony or fasting destroys the powers of digestion.

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 humours, even in the most healthy state, have a constant tendency to putrefaction, which can only be prevented by frequent supplies of fresh nourishment: when that is wanting too long, the putrefaction often proceeds so far as to occasion very dangerous fevers. From hence we may learn the necessity of regular meals. No person can enjoy a good state of heath, whose vessels are either frequently overcharged, or the humours long deprived of fresh supplies of chyle.

Long fasting is extremely hurtful to young people; it not only vitiates their humours, but prevents their growth. Nor is it less injurious to the aged. Most persons, in the decline of life, are afflicted with wind: this complaint is not only increased, but even rendered dangerous, and often fatal, by long fasting. Old people, when their stomachs are empty, are frequently seized with giddiness, headaches, 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 humours, 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, viz. 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 humours. When these are suddenly increased, by an overcharge of rich and nourishing diet, the vessels become too much distended, and obstructions and inflammations ensue. Hence so many people are seized with inflammatory and eruptive fevers, apoplexies, &c. after a feast or debauch.

All great and sudden changes in diet are dangerous. What the stomach has been long accustomed to digest, though less wholesome, will 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 self-denial.

CHAP. IV.

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 endeavour to point out some of these, and to shew whence the danger chiefly arises.

Air may become noxious many ways. Whatever greatly alters its degrees of heat, cold, moisture, &c. renders it unwholesome. Hence proceed bilious and inflammatory fevers, cholera morbus, &c. Very cold air obstructs the perspiration, constringes the solids, and condenses the fluids. It occasions rheumatisms, coughs, and catarrhs, with other diseases of the throat and breast. Air that is too moist destroys the elasticity or spring of the solids, induces phlegmatic or lax constitutions, and disposes the body to 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 vapours continually arising from innumerable putrid substances, as dunghills, slaughter-houses, &c. All possible care should be taken to keep the streets of large towns open and wide, that the air may have a free current through them. They ought likewise to be kept very clean. Nothing tends more to pollute and contaminate the air of a city than dirty streets.

It is very common in this country to have 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 upon entering a church, and renders it a very unsafe place for the weak and valetudinary. These inconveniencies might, in a great measure, be obviated, by prohibiting all persons from burying within churches, by keeping them clean, and permitting a stream of fresh air to pass frequently through them, by opening opposite doors and windows.†

Wherever air stagnates long, it becomes unwholesome. Hence the unhappy persons confined in gaols not only contract malignant fevers themselves, but often communicate them to

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* 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.

others. Nor are many of the holes, for we cannot call them houses, possessed by the poor in great towns, much better than gaols. These low dirty habitations are the very lurking-places of bad air and contagious diseases. Such as live in them seldom enjoy good health; and their children commonly die young. In the choice of a house, those who have it in their power, ought always to pay the greatest attention to open free air.

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

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

Air which stagnates in mines, wells, cellars, &c. is extremely 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 close 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 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

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* 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.

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

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

Surrounding houses too closely with planting 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 labour 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 neighbourhoods is still too generally continued. Churches 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 tomb-stones, "Siste, viator," *stop, traveller*, shew that the dead were buried by the side of public roads, not in temples, nor in the heart of towns and cities. One

* 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. [Hence the disinclination of many families to employ physicians connected with public institutions.—Ed.]

of the laws of the late JOSEPH the Second relative to this point will do him immortal honour. 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-crea-"tures 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. V.

OF EXERCISE.

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

The love of activity shews itself very early in man. So strong is this principle, that a healthy youth cannot be restrained from exercise, even by the fear of punishment. Our love of motion is surely a strong proof of its utility. Nature implants no disposition in vain. It seems to be a catholic law throughout the whole animal creation, that no creature, without exercise,

should enjoy health, or be able to find subsistence. Every creature, except man, takes as much of it as is necessary. He alone, and such animals as are under his direction, deviate from this original law, and they suffer accordingly.

Inactivity never fails to induce an universal relaxation of the solids, which disposes the body to innumerable diseases. When the solids are relaxed, neither the digestion nor any of the secretions can be duly performed. 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 carcase, over-run 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, glandular diseases are very little known; whereas the indolent and inactive are seldom free from them.

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

* It is not necessity, but fashion, which makes the use of carriages so common. There are many people who have not exercise enough to keep their humours wholesome, who yet dare not venture to make a visit to their next neighbours, 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!

points out the sources from whence nervous diseases flow, and the means by which they may be prevented.

It is absolutely impossible to enjoy health where the perspiration is not duly carried on; but that can never be the case where exercise is neglected. When the matter which ought to be thrown off by perspiration is retained in the body, it vitiates the humours, and occasions the gout, fevers, 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 undoubtedly the best time for exercise, while the stomach is empty, and the body refreshed with sleep. Besides, the morning air braces and strengthens the nerves, and, in some measure, answers the purpose of a cold bath. Let any one who has been accustomed to lie a-bed till eight or nine o'clock, rise by six or seven, spend a couple of hours in walking, riding, or any active diversion without doors, and he will find his spirits cheerful and serene through the day, his appetite keen, and his body braced and strengthened. Custom soon renders early rising agreeable, and nothing contributes more to the preservation of health.

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* Cheyne.

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

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

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

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

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

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

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

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

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

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

CHAP. VI.

OF SLEEP AND CLOTHING.

Of Sleep.

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 a-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 doze till noon. The best way to make sleep sound and refreshing, is to rise betimes. The custom of lying a-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 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

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[* The end and design of *sleep*, is both to renew, during the silence and darkness of the night, the vital energy, which has been exhausted through the day, and to assist nutrition. Among the exhausting powers, may be reckoned heat, light, motion, sound, and thought, with the exercise of reason, imagination, desire, and volition. And if to these we add sensations accompanied by pain or pleasure, we shall complete our catalogue. When, therefore, we are to ascertain the degree exhausted by these powers, we are taught by nature to retire, that, recumbent in some sequestered spot, unmolested by light, by heat, by noise, and free from the excitements of volition, sleep may quietly steal upon our senses, and close the avenue to thought. In this situation, all the muscles, excepting the sphincters, are relaxed, and voluntary motion ceases; but not the vital and involuntary, for these, far from exhausting, serve only to recruit our strength,—such is the peristaltic motion of the alimentary canal, on which depends nutrition; such respiration, which supplies the pabulum of life; and such the motion of the heart, which distributes the energetic principle to every part of the animated frame. When all stimulating powers, excepting those which immediately excite the vital functions, are removed, sleep first takes possession of the limbs, and blunts sensation, then impairs the recollection, with the reasoning power, and, finally, precludes volition. If profound, it puts a total stop to all the imaginations of the mind.—Such are the phenomena of sleep. But how is it produced? What is the immediate, and what the remote cause, of sleep? Where is the man, where is the philosopher, physician, or divine, who can solve these inquiries?—See PSALM CXXXIX.—ED.]

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

That light suppers cause sound sleep, is true even to a proverb. Many persons, if they exceed the least at that meal, are sure to have uneasy nights; and, if they fall asleep, the load and oppression on their stomach and spirits occasion frightful dreams, broken and disturbed repose, the nightmare, &c. Were the same persons to go to bed with a light supper, or sit up till that meal was pretty well digested, they would enjoy sound sleep, and rise refreshed and cheerful. There are indeed some people who cannot sleep unless they have 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 useful. This is a sufficient reason why every man should endeavour to be as easy in his mind as possible when he goes to rest. Many, by indulging grief and anxious thought, have banished sound sleep so long, that they could never afterwards enjoy it.

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

Early rising is the natural consequence of going to bed early; and this habit implies sobriety, good order, and an exemption from many fashionable follies extremely prejudicial to health. The man who accustoms himself to go to bed at

* 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.

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

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

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

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

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 hands, and the motion of the toes as free and easy as that of

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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 inconveniencies attending the feet, must be imputed solely to the use of short and strait shoes.

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

the 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 any thing superfluous. What others lay out upon tawdry laces, ruffles, and ribands, they bestow upon superior cleanliness. Finery is only the affectation of dress, and very often covers a great deal of dirt.

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

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* The celebrated Boerhaave used to say, that nobody suffered by cold, save fools and beggars; the latter not being able to procure clothes, and the former not having sense to wear them. Be this as it may, I can with the strictest truth declare, that in many cases where the powers of medicine had been tried in vain, I have cured the patient by recommending

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 graceful motion in a flat-heeled shoe has completely abolished the awkwardness and danger of former attempts to totter about, as it were, upon 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 surprised at any inconsistency in the language or conduct of people, 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 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,

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thick shoes, a flannel waistcoat and drawers, a pair of under-stockings, 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.

[* This well written satire will apply with peculiar force to our modern Dandies.—Ed.]

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 in both 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. VII.

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 humours, and occasions numberless diseases.

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

The Author of Nature hath endued us with various passions, for the propagation of the species, the preservation of the individual, &c. Intemperance is the abuse of these passions; and moderation consists in the proper regulation of them. Men, not contented with satisfying the simple calls of nature,

create artificial wants, and are perpetually in search after something that may gratify them; but imaginary wants can never be gratified. Nature is content with little; but luxury knows no bounds. Hence the epicure, the drunkard, and the debauchee, seldom stop in their career till their money or their constitution fails: then indeed they generally see their error when too late.

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

The great rule of diet is to study simplicity. Nature delights in the most plain and simple food, and every animal, except man, follows her dictates. Man alone riots at large, and ransacks the 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 fashion-"able table set out in all its magnificence, I fancy that I see "gouts and dropsies, fevers and lethargies, with other innume-"rable 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 carnal pleasures, or the abuse of intoxicating liquors, ruin the best constitution! Indeed, these vices generally go hand in hand. Hence it is that we so often behold the votaries of Bacchus and Venus, even before they have arrived at the prime of life, worn out with diseases, and hastening with swift pace to an untimely grave. Did men reflect on the painful diseases and premature deaths which are daily occasioned by intemperance, it would be sufficient to make them shrink back with horror from the indulgence even of their darling pleasures.

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

Families are not only reduced to misery, but even extirpated, by intemperance. Nothing tends so much to prevent propagation, and to shorten the lives of children, as the intemperance of parents. The poor man, who labours all day, and at night lies down contented with his humble fare, can boast a numerous offspring, while his pampered lord, sunk in ease and luxury,

* Addison.

often languishes without an heir to his ample fortunes. Even states and empires feel the influence of intemperance, and rise or fall as it prevails.

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

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

Though the drunkard should not fall by an acute disease, he seldom escapes those of a chronic kind. Intoxicating liquors, when used to excess, weaken the bowels and spoil the digestion; they destroy the power of the nerves, and occasion paralytic and convulsive disorders; they likewise heat and inflame the blood, destroy its balsamic quality, render it unfit for circulation, and the nourishment of the body. Hence obstructions, atrophies, dropsies, and 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 humours properly prepared. Hence most people of this character are afflicted with the gout, the gravel, ulcerous sores in the legs, &c. If these disorders do not appear, they are seized with low spirits, hypochondriacal affections, and other symptoms of indigestion.

Consumptions are now so common, that it is thought one-tenth of the inhabitants of great towns die of that 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 drunk by the common people of England, cannot fail to render the blood unfit for circulation; from whence proceed obstructions, and inflammations of the lungs. There are few great ale-drinkers who are not phthisical, and finally dropsical: nor is that to be wondered at, considering the glutinous and almost indigestible nature of strong ale.

Those who drink ardent spirits or strong wines, run still greater hazard; these liquors heat and inflame the blood, and

tear the tender vessels of the lungs to pieces; yet so great is the consumption of them in this country, that one would almost be induced to think that the inhabitants lived upon them.*

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

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

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* 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 labourer is seen reeling along the streets, they say, *he has got molassed*.

† 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 relick 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.

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

It is of the utmost importance to check the first propensities to gluttony and intoxication, or they soon become uncontrolable. 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 stupor, debility, and disease.

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

CHAP. VIII.

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 re-absorbed from dirty clothes, it must occasion diseases.

Diseases of the skin are chiefly owing to want of cleanli-

ness.* 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 neighbour affects my health as well as his. If dirty people cannot be removed as a common nuisance, they ought at least to be avoided as infectious. All who regard their health should keep at a distance even from their habitations.

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

In many great towns the streets are little better than dunghills, 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 magis-

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* Mr. Pott, in his surgical observations, mentions a disease which he calls the chimney-sweeper's cancer, as it is almost peculiar to that 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.

trates 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 honour 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, keeping their houses, &c. clean. This is merely the effect of indolence and a dirty disposition. Habit may indeed render it less disagreeable to them, but no habit can ever make it salutary to wear dirty clothes, or breathe unwholesome air.

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

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* 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!

† Thou shalt have a place aiso 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.

Deuter. chap. xxiii. ver. 12, 13.

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 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 no where more necessary than on shipboard. If epidemical distempers break out there, no one can be safe. The 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 gaols, hospitals, &c. cleanliness ought to be most

religiously observed. The very smell in such places is often sufficient to make one sick. It is easy to imagine what effect that is likely to have upon the diseased. In an hospital or infirmary where cleanliness is neglected, a person in perfect health has a greater chance to become sick, than a sick person has to get well.

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

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

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

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* 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.

so reproachful an epithet, I must say that uncleanliness 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 stongest recommendation to employment and to pity. Can any favourable 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. IX.

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

The houses of the sick, especially in the country, are generally crowded from morning till night with idle visitors. 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 above mentioned.

Were a plan to be laid down for communicating infection, it could not be done more effectually than by the common method of visiting the sick. Such visitors not only endanger themselves and their connexions, but likewise hurt the sick. By crowding the house, they render the air unwholesome, and by their private whispers and dismal countenances, disturb the imagination of the patient, and depress his spirits. Persons

who are ill, especially in fevers, ought to be kept as quiet as possible. The sight of strange faces, and every thing that disturbs the mind, hurts them.

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

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

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

Infectious disorders are frequently imported. Commerce, together with the riches of foreign climes, bring 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.*

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* 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 sea-port, 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

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

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

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

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

However trifling it may appear to inconsiderate persons, we

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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 sea-port towns, and by this means diffused all over the country.

* 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 on 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.

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 gaols, hospitals, burying grounds, and other places where infection may be generated, to 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 neighbours. They would likewise render it unnecessary for sick servants to be kept in their master's houses. Masters had better pay for having their servants taken care of in an hospital, than 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 neighbours, 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 that 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

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

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 neighbours 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 unfavourable, greatly magnified; so strong is the inclination which some men feel, to spread terror, even at the risk of another's life.

Sir JOHN, not having 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 that dangerous capacity.

CHAP. X.

OF THE PASSIONS.

THE passions* have a great influence both in the cause and cure of diseases. How the mind affects the body, will, in all

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[* As our author has treated the subject of the passions very concisely, we here subjoin a few observations which will tend to illustrate this interesting branch of medical philosophy: this, we trust, will prove ac

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 harbouring resentment in our breast. Resentment preys upon the mind, and occasions the most obstinate chronical disorders, which gradually waste the constitution. Nothing shews true greatness of mind more than to forgive injuries; it promotes the peace of society, and greatly conduces to our own ease, health, and felicity.

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

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.

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ceptable to all our readers, whose object is knowledge, and who bear in mind the established maxim, "knowledge is power."

The Passions may be considered as of two kinds, such as excite the powers of the vital system, or rouse the faculties into action, or such as depress and debilitate them.

A PLEASURABLE state of the mind, tends to rouse the vital functions into action, and to give, as it were, new vigour to the heart and circulation. The perspiration is increased, the respiration easy and free, and the powers of the system that conduce to health are universally strengthened.——The effects of JOY are of the same kind, but more powerful. When moderate, it increases the action of the heart and arteries, and, together with it, the heat and perspiration. It frequently produces a flow

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 child-bed. Many of those who die in that 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 late Dr. Thynne, a teacher of midwifery in London, used to repeat the following affecting circumstance:—A lady of rank engaged him to attend her in her accouchment,—at the same time observing, "Doctor, I shall die in my next confinement." The Doctor attempted to combat this unfounded presentiment, but all to no purpose; she persisted in her opinion: the result was, the lady died!—Ed.]

The methods taken to impress the minds of women with the apprehensions of the great *pain* and *peril* of child-birth, are very hurtful. Few women die in labour, 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.

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sion be in excess, and especially if it takes place on any sudden occasion, it may and has produced fevers, deprivation of understanding, faintness, and even sudden death.——The passion of Love, perhaps, as being a pleasurable sensation, produces effects very similar to those of joy. It excites the powers of the mind and understanding, as well as those of the body, causes a redness and heat of the skin, and acceleration of the pulse, which is, however, mostly accompanied with some irregularity, caused perhaps by doubt and apprehension for the success. In proportion to the vehemence of the passion, these symptoms are increased, and when violently excited, fever, attended with great heat, palpitation of the heart, and a sense of burning diffused through the circulatory vessels, has been the consequence.——Anger is another of the stimulating, though it can scarcely be termed, with propriety, one of the pleasurable passions. It rouses the powers of the body and mind, and impels them

It seldom happens, that two or three women in a great town die in child-bed, 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 wowen 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 child-bed woman, ought with the greatest care to be guarded against.

Many women have lost their lives in child-bed 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 child-bed 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 funeral 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 labours. 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

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into action, accelerates the pulse, and produces redness and heat of the skin. These exertions, however, appear unfriendly to health. They exhaust the strength both of mind and body, as appears from the tremor and faltering voice with which they are mostly accompanied. When excited to a great degree, they produce apoplexies, inflammations, and disorders of the stomach and bowels. On the other hand, some good effects have, at times, and perhaps accidentally, resulted from it. Thus, gout, palsy, dumbness, have all been removed by paroxysms of rage, and life itself evidently prolonged several days. Bishop Butler very justly observes, that anger is far from being a selfish passion, since it is naturally excited by injuries offered to others as well as to ourselves, and was designed by the Author of nature, not only to excite us to act vigorously in defending ourselves from evil, but to interest us in the defence or rescue of the injured and helpless, and to raise us above the fear of

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 unfavourable opinion, that it can be concealed from the patient. The very embarrassment which the friends and attendants shew 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-bye, 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

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the proud and mightier oppressor. Neither, therefore, is all anger sinful—hence the precept, "Be ye angry and sin not." It becomes sinful, however, and contradicts the rule of scripture, when it is conceived upon slight and inadequate provocations, and when it continues long. It is then contrary to the amiable spirit of love, which suffereth long, and is not easily provoked. Hence these other divine precepts: "Let every man be slow to anger;" and, "Let not the sun go down upon your wrath." ——Hope is also a stimulating passion, but of the milder kind. Its effects are, to excite moderately the strength and powers both of the body and mind, and direct them to their proper objects. No ill effects, that we can learn, have ever resulted from it.—If an observer of nature's laws and operations, in bodily and mental ailments, will direct his judicious attention to this passion, he may make himself eminently useful in time of need.

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 neighbours, 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 behaviour 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 shews true greatness of mind to bear them with serenity. Many persons make a merit of indulging 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

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So far on the stimulating passions: let us now turn to those of the debilitating kind.

FEAR is evidently one of these: under its influence, the force of the heart is diminished, and the pulse rendered weak, variable, and intermittent. The circulation is sometimes so retarded, that the blood does not flow from an open vessel. Paleness, shivering, and faintness, are also attendant symptoms; it weakens the powers of digestion, and causes flatulency, acidity, and other concomitants of want and power in the stomach and bowels. It has also a remarkable effect, in rendering those affected with it more liable to the infection of contagious distempers. Fear, in Scripture, is used in various senses. The fear of God, is either filial or servile. Filial fear is a holy affection or gracious habit in the soul, whereby it is inclined to obey all God's commandments, and to hate and avoid evil: this fear is conducive to health and long life. On

of a disagreeable nature, it hurts the whole functions of the body. Hence grief indulged spoils the digestion, and destroys the appetite; by which means the spirits are depressed, the nerves relaxed, the bowels inflated with wind, and the humours, for want of fresh supplies of chyle, vitiated. Thus many an excellent constitution has been ruined by a family misfortune, or any thing that occasions excessive grief.

It is utterly impossible that any person of a dejected mind should enjoy health. Life may indeed be dragged out for a few years; but whoever would live to a good old age, must be good-humoured and cheerful. This indeed is not altogether in our own power; yet our temper of mind, as well as our actions, depend greatly upon ourselves. We can either assosiate 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.

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the other hand, a slavish fear of the Deity, or sense of guilt, not only mars our comforts here, but checks and even destroys every well-grounded hope of felicity in the world to come.——GRIEF is another of the debilitating passions, and its effects resemble, in several instances, those of fear; with, however, some variations, owing, perhaps, to its being of longer duration. Grief diminishes the bodily strength in general, and particularly the force of the heart and circulation, as appears by the frequent sighs, and deep respiration, which attend it, which seem to be necessary exertions, in order to promote the passage of the blood through the lungs. It diminishes perspiration, obstructs the menstrual discharge, produces paleness of the skin, and renders people more apt to receive infectious complaints. Its effects of changing the colour of the hair are well known.

Two other mental affections, scarcely reducible to the class of passions,

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 that is not likely, he should avoid every occasion of increasing it. He ought immediately to flee the company of the beloved object; to apply his mind attentively to business or study; to take every kind of amusement; and, above all, to endeavour, if possible, to find another object which may engage his affections, and which it may be in his power to obtain.

There is no passion with which people are so apt to tamper as love, although none is more dangerous. Some men make

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are of great importance in medicine. The first of these is, a high degree of FAITH *and* CONFIDENCE *in the efficacy of remedies:* whether this operates by engrossing the mind and attention, and thereby rendering it inaccessible to other impressions, or by imparting such a degree of strength, as enables the system to resist their attacks, is difficult to determine.—— Another mental affection that has sometimes produced great effects, is a DETERMINED RESOLUTION *of mind to resist the access of the complaint.* However extraordinary this may seem, it has been practised with success in several disorders. It appears, like that last spoken of, to have been principally of service in periodical and nervous complaints.

From this view of the effects of the passions, on the corporal and vital systems, we may generally infer, that, in cases wherein the powers of life are depressed and weakened, attention should be paid to the excite-

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

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 of 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 so well calculated as *True Religion*, to raise and support the mind of its votaries under every affliction that can befal 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, is a more powerful argument in its

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ment of such passions, as counteract the leading symptom of the disease; and that when the disorder itself consists in, or is aggravated by, too great an excitement of the vital functions, recourse may be had to the debilitating passions.—Ed.]

* 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 shewn them their mistake.

favour, than all the terrors that can be uttered. Terror may indeed deter men from outward acts of wickedness, but can never inspire them with that love of God, and real goodness of heart, in which alone true religion consists.

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

I have often heard that the late Lord KAIMES, when he saw any literary friend sinking under the pressure of melancholy, or some other corroding passion, always gave this advice in a few emphatical words, "Write a book;" which he believed to be an infallible remedy. I also knew the author of a very beautiful elegy cured of his grief for a wife, whom he had 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.*

[* Our author's observations on this interesting subject, appear to us defective. He studied brevity; but, is it not possible to be too brief? Melancholy does not always originate in the mind. On the contrary, it is a disease that first affects the body, and afterwards the mind, by filling the thoughts with continual gloom, and sometimes horror. This uneasiness of mind will discover itself, by thinking and talking on some particular subject with which such persons distress themselves, and from which they cannot be diverted. If their subject of uneasiness be any thing relating only to the present life and world, it is called, in general, *melancholy*. But if religion, the soul, and eternity, be the subjects of uneasiness, it is called, *religious melancholy*. Were we to charge religion itself as gloomy in its nature and tendency, and therefore to give it the name of melancholy, this would be a most unjust reproach. "A melancholy temper and disposition is not from religion, but from our nature and constitution; and therefore religion ought not to be charged with it."† Indeed, the first transition from an irreligious, to a religious temper and character, may seem to wear the appearance of gloom. But there are innumerable instances of serious thoughtfulness about the soul and eternity, even in the first stages of it, where there is not the least trace of what is properly called religious melancholy. When any *prodigal comes to himself;* that is, to his right mind, he changes riot and dissipation for temperance; wild inconsideration, for prudent reflection; unbridled lusts, for pious resolutions, sincere repentance, and thorough reformation. This is not his disease, but his health; not his want of self-enjoyment, but his recovery of it; not religious melancholy, but religious excellency and happiness.

That a remedy is needed for the body, it is hoped, has been made sufficiently plain by what has already been observed above: and much more does a remedy appear to be necessary for the mind, by what is said of the symptoms and causes of religious melancholy. Yet it is too common to be all attention, either to the body, in the neglect of the mind; or to the mind, in neglect of the body. "If a man that is troubled in conscience, come to a minister, (said the Rev. Mr. Greenham,) it may be,

† *Archbishop Tillotson*, fol. vol. i. p. 109.

CHAP. XI.

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.

Of the Evacuation by Stool.

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

Persons who eat and drink at irregular hours, and who eat various kinds of food, and drink of several different liquors at every meal, have no reason to expect either that their digestion will be good, or their discharges regular. Irregularity in

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he will look all to the soul, and nothing to the body. If he come to a physician, he considers the body, and neglects the soul. For my part, I would never have the physician's counsel despised, nor the labour of the minister neglected." Because the soul and body dwell together, it is expedient, that, as the soul should be cured, by the word, by prayer, by fasting, or by comforting; so the body must be brought into some temperature, by physic, diet, and exercise.‡ "Melancholy persons make mountains of mole-hills," says Dr. Horton, "they enlarge evils to themselves, and commonly make them worse than indeed they are, and this causes dejection. It is in this case with the eye of the soul, as with the eye of the body. Those who look through painted glass, every thing appears to them of the colour of the glass which they look through. Even so it is in the speculations of the mind. Those who look through a sad and dark fancy, every thing appears sad and dark unto them, and they have uncomfortable apprehensions about it."§

If, however, we wish to be instrumental in the hand of God, to promote, in any measure, the recovery of such persons, our efforts may, perhaps, be not improperly reduced to the following rules:—Be affectionately concerned for their distressed state: Endeavour to convince them, that it is a bodily disease which affects their minds: correct their mistaken apprehensions concerning some religious tenets: caution them against other things, which may increase and prolong their disease: be sure to inform them of persons recovered from as bad a state as their own, in order to encourage and revive their hopes.—ED.]

‡ *Greenham's Comfort for afflicted persons.*

§ *Dr. Horton's Exposition of Select Psalms,* fol. p. 165.

eating and drinking disturbs every part of the animal economy, and never fails to occasion diseases. Either too much or too little food will have this effect. The former indeed generally occasions looseness, and the latter costiveness; but both have a tendency to hurt the health.

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

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

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

Persons who have frequent recourse to medicines for preventing costiveness, seldom fail to ruin their constitution. Purging medicines frequently repeated weaken the bowels, hurt the digestion, and every dose makes way for another, till at length they become as necessary as daily bread. Those who are troubled with costiveness ought rather, if possible, to remove it by diet than drugs. They should likewise go thinly clothed, and avoid every thing of an astringent or of 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.

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

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.*

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

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* It has long been an observation among physicians, that the appearances of the urine are very uncertain, and very little to be depended on. No one will be surprised at this, who considers how many ways it may be affected, and consequently have its appearance altered. The passions, the state of the atmosphere, the quantity and quality of the food, the exercise, the clothing, the state of the other evacuations, and 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 favour of *urine doctors* is the strongest. The common people have still an unlimited faith in their skill, although it has been demonstrated that no one of them is able to distinguish the urine of a horse, or any other animal, from that of a man.

the bladder it becomes thicker, the more watery parts flying off first, and the more gross and earthy remaining behind. By the constant tendency which these have to concrete, the formation of stones and gravel in the bladder is promoted. Hence it comes to pass, that indolent and sedentary people are much more liable to these diseases, than persons of a more active life.

Many persons have lost their lives, and others have brought on very tedious, and even incurable disorders, by retaining their urine too long, from a false delicacy. When the bladder has been over-distended, 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 endeavour to point out the causes which most commonly obstruct it, and to shew 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. No one who reflects on such great and sudden changes in the atmosphere, will be surprised to find colds, coughs, rheums, with other affections of the breast and bowels, so common in this country.

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.

Night Air.

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

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

easily be prevented in private families, by causing their servants to sleep in the spare beds, and resign them to strangers when they come. In inns, where the beds are used almost every night, nothing else is necessary than to keep the rooms well-seasoned by frequent fires, and the linen dry.

That baneful custom, said to be practised in many inns, of damping sheets, and pressing them, in order to save washing, and afterwards laying them on the beds, ought, when discovered, to be punished with the utmost severity. It is really a species of murder, and will often prove as fatal as poison or gun-shot. Indeed, no linen, especially if it has been washed in winter, ought to be used till it has been exposed for some time to the fire; nor is this operation less necessary for linen washed in summer, provided it has lain 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 exceeding 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 inconvenience, 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 been lately washed; the delicate ought carefully to avoid such a

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

situation, and even the robust are not always proof against its influence.*

Sudden Transitions from Heat to Cold.

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

It is very common for people, when hot, to drink freely of cold water, or small liquors. This conduct is extremely dangerous. Thirst indeed is hard to bear, and the inclination to gratify that appetite frequently gets the better of reason, and makes us do what our judgment disapproves. Every peasant, however, knows, if his horse be permitted to drink his 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 spirits, if it can be obtained, ought to be preferred to any thing else. But if any one has been so foolish, when hot, as to drink freely of cold liquor, he ought to continue his exer-

* 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.

[† It has been long known, that accidents from this cause are always alarming, and frequently fatal. The late celebrated Dr. Currie, of London, advised a large dose of laudanum as the best remedy. A physician in America praises the superior efficacy of strong camphorated spirit. If we can trust the accuracy of our information, this physician, when lately called to a case of this nature, dissolved half an ounce of camphor in half a pint of brandy, and gave one third of this solution every ten minutes, with the best effects.—ED.]

cise at least till what he drank be thoroughly warmed upon his stomach.

It would be tedious to enumerate all the bad effects which flow from drinking cold liquors when the body is hot. Sometimes this has occasioned immediate death. Hoarseness, quinseys, and fevers of various kinds, are its common consequences. Neither is it safe when warm to eat freely of raw fruits, 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 drank warm liquors for several hours, to walk or ride a number of miles in the coldest night, or to ramble about in the streets.*

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

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

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

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

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

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

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

I shall put an end to what relates to this part of my subject, by giving an abstract of the justly celebrated advice of Celsus, with respect to the preservation of health. "A man," says he, "who is blessed with good health, should confine himself to "no particular rules, either with respect to regimen or medi- "cine. 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 exer- "cise. He ought to refuse no kind of food that is commonly "used, but sometimes to eat more, and sometimes less; some- "times 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 care- "ful in time of health not to destroy, by excesses of any kind, "that vigour 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.

CHAP. XII.

ON THE EFFECTS OF COLD AND HEAT ON THE ANIMAL FRAME.

[1. That *heat*, like all other stimuli, may have a debilitating power, must be obvious to every one, who pays the least attention to plants and animals. During the scorching heats of summer, especially at mid-day, all nature languishes, and her energy is lost.—The plants, exhausted of their vigour, hang their heads; their foliage drops; and among these, the *Mimosa pudica*, the *Dionœa muscipula*, with the *Hedysarum gyrans*, lose their sensibility and motion; whilst the various tribes of animals, panting for breath, seek some cool retreat. Even in our northern latitude this cannot escape our notice; but, to see it in perfection, we must visit the more sultry regions of the south, where the African, patient of heat, is obliged to intermit his labour, whilst the inhabitants of more temperate climates, such as Italy and Spain, retire into some dark recess, and sleep. In this cool retreat the vital energy is soon renewed.

2. When there is an accumulation of *heat* in the system, the blood is determined to the surface, and the cutaneous discharge increases; a sweat, usually copious in proportion to the superabundant quantity of heat, breaks out; the evaporation carries off this surplus, and the equilibrium is restored.

3. *Cold*, that is to say, the absence of heat, has an opposite effect. When properly applied, it strengthens, giving vigour to the body, and energy to the powers of the mind. These effects are visible in high latitudes, till you approach the poles, where all is torpid; or till you ascend to those elevated regions, where eternal winter reigns. There no vegetable thrives except the *Lichen;* no animal but the *Rein-deer* of frozen Lapland, or the *Chamois* on the lofty summit of the Alps. In these situations, we may see, in the greatest possible perfection, the sedative power of extreme and continued cold; but the moderate, or the sudden and transitory application of cold, has a different effect.

Let us consider its operation, when applied to the surface of the body in the act of bathing. The first effect is a constriction upon the extreme vessels. This propels the blood towards the heart, with such increase of quantity and velocity, as to augment in the same degree its stimulating power. In consequence of this, the reaction of the heart and arteries sends back the blood with increased velocity to the surface of the body, so as in a healthy subject to overcome the stricture, diffuse a genial warmth, and create a keen appetite for food, with a sense of lightness, alacrity, and strength.

4. If *cold* be gradually applied, the constriction is more permanent; the internal secretions are increased, and the perspiration is diminished; yet so far is this from producing a disease, that health and vigour are thereby much improved.

5. When *cold and humidity* succeed to heat, more especially if the change be sudden, the balance of the system is destroyed; perspiration is checked; and the blood is determined to the internal surfaces, producing tension to the minuter vessels, and irritation in the arterial system, with inflammatory symptoms, either partial or general, such as in catarrh, dysentery, rheumatism, fever. In this case, the deleterious effects will be, to use the language of mathematics, inversely as the force of circulation. This, however, will be once more considered when we come to treat of *catarrh*, in the body of this work.

6. When *heat* suddenly succeeds to *cold*, the blood, increased in volume, is powerfully determined to the surface, where the extreme vessels being distended beyond their tone, inflammation follows, and we have, as before, either catarrhs, rheumatic symptoms, or a fever. In this case, the deleterious effects will be directly as the force of circulation.

7. The more intense the preceding *cold*, and the longer its continuance, the greater is the accumulation of irritability, and the more violent are the effects produced by sudden application of heat.

To make this *accumulation of irritability* more sensible, you need only handle snow, or expose yourself to the protracted stroke of a keen frosty blast, and then approach the fire, if the inflammation and the pain will permit you to draw nigh.

Should you darken one eye for five minutes only, and then remove the covering, you will not merely be sensible of increased splendour in that eye, but the stimulus of light will be exceedingly distressing. Or, should you retire from the glare of a meridian sun into a wide apartment, having only a glimmering day, it will be a considerable time before you can distinguish objects at a distance; that is, before the sensibility of the retina is sufficiently restored to be affected by a weak impression. But should you have continued for many hours in the dark, you will be able to read distinctly by the feeble light emitted from a glow-worm: or, should you, after a long continuance in perfect darkness, be suddenly exposed to the full blaze of day, with such an accumulation of irritability, you would be deprived of sight.

That you may with safety be sufficiently convinced of this, you need but to observe the pupils of a friend, and take notice to what extent the iris is dilated; then let him for a few minutes close his eyes, and cover them, so as effectually to preclude the light. The instant he opens them again, if he looks towards a window, you will remark the iris contracting,

and the pupils scarcely to be discerned; yet notwithstanding these avenues of light are so nearly closed, such is the degree of irritation, that he is unable to prevent his lids from shutting, and he feels himself impelled to turn away his eyes. In a short time, however, this accumulated irritability is exhausted, the pupils expand, and after a few minutes, he can, without distress, look steadily towards the light. From this accumulation of irritability it is, that vegetation in the spring is rapid and vigorous, in proportion to the length and severity of the preceding winter.

When therefore, in the human frame, the change from *cold* to *heat* is sudden, the first injury is not derived from its exhausted influence, but from its stimulating power; which, with the stimulus of distention meeting with accumulated irritability in the system, morbidly excites the larger arteries to action; and, as the consequently increasing distention of the extreme vessels communicates by sympathy fresh stimulus to them, action and reaction uninterruptedly proceed, and the injury, till some curative operation is commenced, must constantly increase.—Ed.]

[CHAP. XIII.

INDICATIONS OF HEALTH AND DISEASE.

(Partly from a French Author.)

Section I.—*Posture.*

The attitude which a sick man assumes, during sleep, is often indicative of the state of certain functions, and is not to be overlooked by the attentive physician.

1. In health, the limbs are all in a half-bent position, and of course in a state of relaxation; but this must be carefully distinguished from a somewhat similar appearance which takes place sometimes in disease, from a total loss of muscular power, and which is indicative of the greatest danger.

2. In inflammatory diseases, in the greater number of inflammations, and at the approach of eruptions, the patient is so tormented with heat and anxiety, that he is constantly changing his position. In the worst species of fevers, on the other hand, he lies on his back, in a state of supination, which is at once the sign and the effect of prostration of strength. The muscles have so little power, that the whole body gravitates, as it were, towards the earth, from whatever position it is placed in; hence the appearance of the patient descending towards the foot of the bed, because it is lower than the head.

3. If the patient, while in a posture of supination, has the lower extremities thrown asunder, and the arms, feet, neck, and breast uncovered, although these parts are cool, the danger is great. The same applies to the half-open state of the eyes and mouth, with the head reclining backwards.

4. To find a patient lying on his face, is a bad sign, as it indicates approaching delirium, or severe abdominal pains. It is a good sign when the patient tries to find an easy position, by turning himself from side to side; especially when he can lie a good while in the position so chosen, in a state of easy relaxation.

5. In *peritonitis*, the easiest position is on the back, but when one of the abdominal viscera is affected, the patient can more frequently lie on that than on the sound side, on account of the tension produced by the latter position. To this, however, there are many exceptions.

6. In *pleurisy*, the patient almost always lies on the sound side; when suppuration takes place, it is just the reverse.

7. In *peripneumony*, the danger is great, when the dyspnœa obliges the patient to sit up.

8. In *phthisis*, there is nothing very certain to be learnt from the resting position. In general, however, the patient lies on the diseased side.

Section II.--*Indications drawn from the Size.*

1. In inflammatory fever, the face, and even the whole cutaneous surface, is augmented in volume. The same takes place in eruptive diseases. The augmentation commences generally in the face, and extends successively to the trunk and members. If it do not observe this order, there is danger of metastasis to some organ.

2. Chronic inflammation of an internal viscus, is almost always accompanied by increase of size in the organs affected.

3. In general, it is a good sign when the size of the body does not alter much during disease; but if the disease, when violent, and one that is usually accompanied by emaciation, does not produce this effect, the danger is greater; as in low nervous fevers, where the size remains nearly stationary, although no nourishment is taken in.

4. An external swelling is, in general, favourable in acute diseases, as it relieves internal organs, not only of an overplus of blood, but determines irritation from thence to the exterior. Thus, in quinsy, the more the neck is swelled, the less danger there is in the throat.

5. In convalescence, it is a good sign to see the patient return to his ordinary size, or even a little beyond that. Men who become corpulent at an early age, seldom live to an advanced one.

6. It is a good sign when maniacs and melancholics regain their size, in proportion as the mental alienation subsides. But if the body becomes corpulent while the mental disease remains stationary, there is little hope of cure.

7. Every one knows that augmentation of size from œdematous effusion is an unfavourable symptom. A slight œdema, however, of the lower extremities after acute diseases, is little to be feared, since the previous disease is often relieved by this effusion, which soon afterwards disappears.

8. Œdema of the hands, feet, eye-lids, or face, supervening on chronic diseases, is a very bad sign.

9. In hydrothorax, the external œdema of the face, hands, &c. is generally more developed on the side that corresponds with the internal effusion, where this is confined to one side.

10. In old people, a progressive diminution in size, however slow, without any apparent disease, evinces dissolution at no great distance.

11. In acute diseases, the emaciation does not proceed rapidly during the early periods; it manifests itself most sensibly in the second stage, especially about the turn of the disease.

12. The sooner the emaciation begins, the shorter the disease, and *vice versa*. This was observed by Hippocrates, who says, "if in acute fever the body suffers no diminution, the disease will be tedious." (*Aphor.*)

13. It does not appear correct to attribute the great emaciation of febrile patients to the dissipation of the juices by the fever, while no reparation is made by the aliment. This dissipation is, in a great measure, ideal. In fact, during the first stage of fever, all the excretories are closed, and excretions and secretions almost totally suspended. In this period, the emaciation is *partial;* that is, it is caused by an unequal distribution of the fluids, which gravitate, as it were, towards the points of lesion, and desert the other parts of the body. In acute diseases, as was indeed observed by Hippocrates, a sudden and rapid emaciation is a dangerous symptom, and seems to be owing to the too great activity of the absorbents, which hurry into the circulation the richest parts of the body, while the torpor of the secretory vessels prevents a sufficient outlet; hence the sanguiferous system becomes surcharged, and inflammation or congestion of the internal organs is the consequence.

14. If, at the close of an acute disease, no emaciation has taken place, there is every chance of a relapse.

15. In pregnant women, the afflux of fluids towards the uterus, causes an emaciation of the other parts. This is not dangerous. If, however, an extreme and sudden emaciation takes place without apparent cause, there is danger of a tedious confinement, or even abortion.

16. In most chronic visceral affections, there is emaciation of the other parts of the body. Thus, in chronic enlargements, hydrothorax, ascites, encysted dropsies, &c. we constantly remark a warting of the members, followed, at a subsequent period, by œdema of the same.

SECTION III.—*Indications drawn from the Colour.*

During health, many circumstances affect the colour of the skin; thus the cold bath, fear, hæmorrhages, vomiting, diarrhœa, &c. render it pale. Prisoners, and those who do not go much into the open air, are also of a pallid aspect.

The skin is red, injected, and dry, &c. in inflammatory diseases; while in hepatic and gastric complaints, it assumes all the tints between deep yellow and a greenish pallor. Scirrhous affections of the stomach impress a peculiar complexion and physiognomy on the countenance, a kind of pale yellow with an earthy hue; the features being all sharpened, and something painful even to behold in the expression of the face.

Organic diseases of the heart give quite a different appearance to the skin, which is generally tinged with a violet shade; especially about the lips. Cancerous affections of the womb impress a modification of those resulting from gastric scirrhus. The tints are not so yellow or sallow as in the latter, but much more marked. Every one knows what important information is to be drawn from the colour and appearances of the tongue, the urine, and the fœces. And it is earnestly hoped, that the foregoing sketch may excite the curiosity of the young physician, and every attentive observer, to a branch of diagnosis and prognosis that is too little studied.—ED.]

[CHAP. XIV.

ON THE LANGUAGE OF COMPLAINT DURING PAIN, AND THE CONSEQUENCES OF SUPPRESSING IT.

(Taken principally from the French of Baron Larrey.)

THE life of man, from the instant of his birth, to the moment of his dissolution, is one continued struggle against the innumerable painful agents that surround and annoy him. The same organs of sense by which he enjoys pleasure, are the media through which pain is also conveyed. That the sense of pain is as wisely implanted in our nerves as the sense of pleasure, there can be little doubt; but our present object is to inquire, whether that peculiar language of complaint (which, indeed, is the universal language of all animated nature) has any *salutary* tendency, or is merely the index of our sensations.

The infant cries the moment it enters this world; no doubt from a sense of pain occasioned by the new impression of the atmosphere. It has no other language to make known its pains or uneasiness; but, in this view alone, it is a wise gift of the Omnipotent Creator. Were it not for this animated language of nature, the careless nurse might implant pins into the infant's flesh, or neglect to supply it with sufficient aliment. As nature seldom adapts a single mean to a single purpose, we have every reason to believe that the *moderate action of crying* has a salutary influence on the pulmonary system of the child, and through that, on the whole corporeal fabric.

That the language of complaint is useful in *moral* afflictions, we have the most demonstrative evidence. The fact is so striking, as to have arrested the attention of the poets, as well as the physicians, of every age. A flood of tears instantly relieves both mind and body! The cheeks of Niobe were dry when grief burst her heart for the loss of her children. The observant physician sees, at every step of his professional rounds, the morbid corporeal effects of *suppressed* mental emotions. This did not escape the penetrating eye of Shakspeare;

> ——— "She never told her love,
> But let concealment, like a worm i' th' bud,
> Feed on her damask cheek."

It is in this way that the confidence of a friend, to whom we can unbosom our sorrows, often prevents that *corporeal* derangement in the brain, which ends in insanity or suicide, when the cause of grief is kept locked up in the breast. It is a certain fact, that even *solitude* confers a comparative relief, because we are there, as it were, enabled to give vent to our emotions in sighs, groans, or ejaculations. But, when in the midst of company, to whom we dare not communicate our thoughts, we endure the pangs of the tormented, and are always eager to get away into the open air by ourselves.

The ravages which grief, and other melancholy emotions, make upon the functions and structure of our corporeal organs, is truly astonishing. They are not much less numerous than those from physical causes. And why need we wonder at this, when we have so many well authenticated instances of death itself, on the spot, from mental emotions? Marcellus Donatus relates, that at the siege of Buda, a young soldier fought with such surprising valour, as to excite the admiration of the whole army, both friends and enemies; but who at length fell, overpowered by numbers. It was eagerly inquired who this valiant youth could be; and after the battle, his body being found, and his visor taken off, Raisciat of Suabia recognized him as his son! The father remained perfectly motionless for a few seconds, his eyes tearless, and fixed on the corpse—he then fell over the body, and instantly expired without uttering a groan!

Innumerable instances of the effects of sorrow, though less suddenly fatal, on the functions and structure of the viscera, might be here adduced; but we shall only state one or two. Boyle relates, that, a woman having sat down to rest on the bank of a canal, permitted her infant child to creep about on the grass. The child, however, fell into the water, and the mother, on looking up, saw her offspring sinking! She was instantly stricken with palsy of one arm, which continued during life.

But, what intelligent or experienced physician has not seen hypochondriasis, mania, epilepsy, result from moral affliction? It is, however, on the *epigastric centre* that grief and anxiety chiefly bend their morbid effects. Hence it is, that aneurism, and other structural derangements of the heart, are so frequently developed; and hence too those scirrhous affections of the stomach, especially of the pyloris, which we meet with among people long preyed on by melancholy emotions of the mind.

The hepatic system, also, comes very particularly under the influence of suppressed sorrow, and strong mental conflict. We have seen an incredible number of these cases. Renauldin relates the case of a man, who, in one minute, was suffused completely yellow, from mental agitation, under his own eye. But, to return to the language of complaint in painful diseases, and during operations.

The proud stoic will tell you, that as pain is not an evil, to complain is unworthy of a man; and to *cry*, is a piece of shameful pusillanimity. But the stoic, instead of being a natural, is a most *unnatural* philosopher! Pain is the lot of human nature; but the language of complaint is permitted to him who suffers. Pain, indeed, very generally tames the proudest and the fiercest mind; like the force of love, it reduces all ranks to a level. When Felix operated on Henry the IVth of France, for a *fistula in ano*, the patient at first endeavoured to suppress his feelings, and act the monarch. But the knife soon subdued his resolution; and before the operation was over, this prince and hero roared as loud as any of his subjects!

To *moderate* the expression of our feelings in painful diseases, and especially under surgical operations, is commendable; to *suppress* them is dangerous. It is not beneath the dignity of the bravest warrior to wince under the surgeon's knife. Read the Iliad, and your ears will be stunned with the cries of the Grecian and Trojan heroes when wounded. In fact, the *experienced* surgeon will be far from gratified, to find his patient utter not a complaint during a painful surgical operation. It is a bad omen, whether it result from insensibility of the patient, or a proud suppression of his feelings. Anne of Austria was afflicted with a cancer in her breast, which caused the most excruciating torture at intervals. Her confessor

exhorted her to restrain her expressions of suffering at these times; but in doing so, she experienced such a sense of suffocation and anguish internally, as nearly overwhelmed her. The Mareschal du Mug was operated on for stone in the bladder. He prayed devoutly at mass, just before the operation, for strength of mind to bear the pain; and he so far suppressed the feelings of nature, that he uttered not a murmur while the stone was extracted. He died almost immediately afterwards. Baron Percy, who has performed as many surgical operations as any man living, remarks, that "it is a favourable circumstance, when, under great operations, the patient cries and sheds tears.

"It appears that, in such cases, a kind of general relaxation takes place in the system, rendered previously almost convulsed by the pain. The functions of the heart are deranged; the respiration is impeded; the blood is detained in the large vessels; the nervous system is spasmed, and the motions of the diaphragm are irregular and tumultuous. All these morbid phenomena are greatly exasperated, *if the language of complaint be suppressed;* [si le malade se tait et resiste.] The impression of anguish cannot be effaced afterwards; the vital powers take a destructive direction; the whole economy is perverted; and sudden death, or a low fever, too often ending in the same, is the sad result of this state of things. If, on the contrary, the patient cries out; if he exhales; if, as Montagne says, he evaporates the pain, these effects will not take place, and these impressions will be but transitory. Every cry which consists in a deep inspiration, followed by a sudden and interrupted expiration, dilates and extends every part which the pain had previously constricted; thus preventing congestions; facilitating the circulation of the blood through the lungs; disembarrassing the heart: in fine, bringing constantly back that *order*, which pain, the great enemy of order, tends incessantly to subvert."

The Baron remarks, that he has often met with men who, in the midst of the most terrible sufferings, knew not how to, or could not, cry out. They appeared as if stupified, or absorbed by the pain, which seemed to reign paramount over every other sentiment and instinct. "I have (says this experienced surgeon) exhorted men, under these circumstances, to cry aloud, when I saw the pain ravaging on their vitals; their necks and chests swell; the hair bristle on their heads; the mouth closed and distorted; all the muscles contracted; the face pale and sunk; the eye fixed and projected—the countenance wild; a hollow stertorous sound issuing from the bottom of the throat; and yet suffering nature giving no vent to her feelings."—This may be termed the *passive* suppression of complaint; for when, from false pride, or other motive, men

have constrained by violence their feelings, the phenomena wear a different aspect. The face becomes swelled and reddened—the abdomen is flattened and contracted—the hypochondria project—the mouth is open, as if to give passage to cries which are stifled in the throat—the eyes are red, injected, but not moistened with tears.—The whole body bears the marks of violent efforts to overcome the pain. But even these expressions of the countenance can sometimes be suppressed.

"I extirpated," says Baron Larrey, "the breast of a lady affected with cancer, who was of a most religious turn of mind. She held a crucifix in her hand, smiling and talking to it in the most tranquil manner, during the whole of the operation, while her body was contorted with agony. She was seized immediately afterwards with an universal spasmodic affection, which nearly put an end to her existence."

"Another time," says the same distinguished surgeon, "I operated for a large popliteal aneurism, on the master of a seminary, who, though young, and apparently susceptible, bore the operation, which was very painful and complicated, without uttering a word, or moving a single muscle. But a terrible *re-action* succeeded this internal struggle between nature and pain! Spasms and cramps assailed the suffering patient for the first fifteen days after the operation, and he did not recover under three months."

We trust that the observations contained in the foregoing paper, may not be unprofitable to the general reader. Every thing which can mar, in any degree, the success of an operation, is of great importance to the young surgeon, and to the attendants; and we have repeatedly seen much mischief done by the almost universal habit, which surgeons are in, of repressing the language of complaint in their patients, and exhorting them to bear their sufferings without a murmur. This evil is increased by the *bravado* of the patient, who, in an operation room or public hospital, endeavours to stifle his groans, and act the hero, when it would be much wiser to shew himself the frail mortal, the child of pain, by giving a moderate and natural vent to the *language of complaint*.—Ed.]

PART II.

OF DISEASES.

CHAP. XV.

OF THE KNOWLEDGE AND CURE OF DISEASES.

THE cure of diseases does not depend so much upon scientific principles as many imagine. It is chiefly the result of experience and observation. By attending the sick, and carefully observing the various occurrences in diseases, a great degree of accuracy may be acquired, both in distinguishing their symptoms, and in the application of medicines. Hence sensible nurses, and other persons who wait upon the sick, often foresee the patient's fate sooner than 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 that circumstance, and at the same time to point out the peculiar or characteristic symptoms by which it may be distinguished. By a due attention to these, the investigation of diseases will be found to be a less difficult matter than most people would at first be ready to imagine.

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

In childhood, the fibres are lax and soft, the nerves extremely irritable, and the fluids thin; whereas in old age, the fibres are rigid, the nerves become almost insensible, and many of the vessels imperviable. These and other peculiarities ren-

der 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 who is much exposed to the open air.

The temper of 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 it 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 labour 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 endeavours; 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 which 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, that 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 humours 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 an attention to other things of less importance than to 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 medicine 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 self-appointed practitioners, who call themselves of *the faculty*, take no small pains to insinuate, that my observations on the prevention and cure of diseases serve only to encourage the fatal practice of domestic quackery. This is equally inconsistent with candour and truth. The obvious tendency of all my remarks is to enlighten the minds of the

people on a subject of such immediate concern as their health, and thus to guard them against the bad effects of ignorance and rashness on their own part, and of impudence and deceit on the part of others. I 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 intrusted to such hands with perfect safety; and if the directions I give do not operate as a check upon rashness, I know of no words strong enough to produce that effect. 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. XVI.

OF FEVERS IN GENERAL.

As more than one half of mankind is said to perish by fevers, it is of importance to be acquainted with their causes. The most general causes of fevers are, *infection, 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 shewn, 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 the sleep disturbed and not refreshing.

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

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

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 shews 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 shew a putrid state of the humours, 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 endeavour to assist her operations. Our bodies are so framed, as to have a constant tendency to expel or throw off whatever is injurious to health. This is generally done by urine, sweat, stool, expectoration, vomit, or some other evacuation.

There is reason to believe, if the efforts of nature at the

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

Our design is not to enter into a critical inquiry into the nature and immediate causes of fevers, but to mark their most obvious symptoms, and to point out the proper treatment of the patient with respect to his diet, drink, air, &c. in the different stages of the disease. 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 humours, remove spasms and obstructions, promote perspiration, increase the quantity of urine, and in short produce every salutary effect, in an ardent or inflammatory fever, as drinking plentifully of water, thin gruel, or any other weak liquor, of which water is the basis? The necessity of diluting liquors is pointed out by the dry tongue, the parched skin, and the burning heat, as well as by 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, lime-tree 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 shews 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 any thing that may in the least affect or discompose his mind.

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

Poor people, when any of their family are taken ill, run directly to their rich neighbours for cordials, and pour wine, spirits, &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 humours in a putrid state, air that has been breathed repeatedly will greatly increase the disease. Such air not only 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 reli-

gion, 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 less frequent. Sedentary occupations, and a different manner of living, have so changed the state of diseases in Britain, and especially in large towns, that we find blood-letting not requisite in many cases of fever. 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 means of which the fever may often be carried off. But instead of this, the common practice is to heap clothes upon the patient, and to give him things of a hot nature, as spirits, spiceries, &c. which fire his blood, increase the spasms, and render the disease more dangerous.

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

[*On the General Cure of Fever.*

Before we enter on the particular consideration of fevers, we deem it desirable to present our readers with concise axioms relative to the general treatment of fevers. We invite their best attention to this. No specific rules can be laid down for all cases that may occur: and the treatment that may be strictly applicable to-day, may be prudently abandoned to-morrow, because of the development of symptoms which had not, and could not be, foreseen either by the patient's friends or his medical attendant.

In the cure of fever, our attention should be first directed towards moderating any irritation, which may increase the disease, or disturb the regular and salutary periods.

1. All disagreeable and violent impressions on the mind are to be avoided.

2. The stimulus of external heat is to be removed, as well by keeping the patient in a large and airy room, as by diminishing the quantity of bed-clothes.

3. The exercise of the body, or the exertion of muscular power, as in speaking; even the stimulus of light, is to be avoided, as they increase debility in weak habits.

4. The food should be vegetable, acescent, and of the easiest digestion; the best drink is water acidulated; and, in general, all fermented liquors, except small beer, should be forbidden.

The usual symptoms are increased by the introduction of food or nourishment into the body, especially of animal food; therefore the anxiety generally expressed on that occasion is ill founded.

5. When the first passages are preternaturally loaded with corrupted matter or accumulated fæces, the stomach and intestines are to be emptied by the use of a brisk purgative. An early attention to this particular will not only remove such morbid and irritating matter, but likewise moderate the inflammatory diathesis of the system, and render bleeding and other evacuations less necessary.

In the general cure of fevers, we should be regulated by an attention to the symptoms of violent action, debility, and tendency to putrescency in the animal fluids.

1. The symptoms of *violent action* are increased force; hardness, and frequency in the pulse, which often particularly determines to the brain, lungs, and other important viscera, producing a sense of local pain, and congestion; the secretions are generally very high coloured. Such symptoms have commonly been preceded by a severe cold fit, and point out the inflammatory diathesis of the habit.

The symptoms of *violent action* are best moderated by *bloodletting*.

The effect of bleeding is more immediately felt in reducing the inflammatory action, than any other evacuation.

It requires much skill to determine in what cases it may always be successfully employed.

It ought chiefly to be had recourse to in the early stage of fever.

The young, the vigorous, and plethoric, bear it best.

The spring and winter seasons demand it most.

The inflammatory diathesis is more prevalent in cold than in warm climates; this however is not altogether a general rule, for in the warmest countries, local inflammation, especially of the liver, is more frequent and acute than in cold countries, and gives way chiefly to early bleeding.

In epidemic and contagious diseases, much caution is necessary in the use of the lancet. Attention should be paid to the former diseases and habits of the patient.

The appearance of the blood, and the effects of blood-letting, which may have been already practised, ought likewise to regulate our conduct.

A sudden and large evacuation often answers best, especially when made in a relaxed or supine posture.

Evacuation by stool likewise moderates the violent action of the system.

The effect of purging is not only that of emptying the intestines, but likewise the vascular system distributed upon them.

This evacuation does not so suddenly weaken the system, nor reduce the inflammatory diathesis, as blood-letting; it has however frequently its advantage, especially in doubtful cases of increased action.

In the more advanced stage of fever, purging may not only be useful, in so far as it empties the intestines, and removes the putrescent and irritating matter of the bowels; but, when employed in the beginning, may do good, by moderating the general action of the system.

Symptoms of violent action are moderated by plentiful *dilution*, especially of watery fluids, acidulated, or accompanied with some of the neutral salts.

Sweating frequently tends to moderate the violent action of fever, when produced by gentle and relaxing means, in opposition to external heat and powerful stimulants.

This evacuation is frequently spontaneous and moderate, producing the solution of the disease, and is often succesfully excited by art.

In many cases where it is early and profuse, it protracts the disease, and exhausts the patient's strength. This is frequently perceived to be the case in rheumatic fevers.

If it does not relieve in twenty-four hours, it seldom does good.

A relaxed soft skin, opposed to a dry burning heat, is more favourable than a copious discharge.

Partial sweating is always hurtful. In case of violent action, sweating is most safely induced by nauseating doses of emetics, especially the antimonial.—See Appendix. *Antimonial wine.*

This, in general, will likewise prove gently laxative, which renders the practice of sweating much safer in many doubtful cases of inflammatory diathesis. Other preparations of antimony may likewise be employed, which, by their slow solubility in the stomach, are less apt to excite vomiting. Of these are all the calcined preparations of antimony, in imitation of Dr. James's powder.—See Appendix. *Antimonial powder.*

In the early stages of fever, great advantages are derived from the combination of antimonial with purgative remedies.

Under the nauseating operation of antimonial preparations, the febrile anxiety, and even delirium, is often increased, until some evacuation is induced, which remoues those symptoms, and brings on a crisis of the disease.

The symptoms of *debility* are a weakness and irregularity of the voluntary motions, as starting of the muscles, as well as of sensations and intellectual operations; weakness of the pulse, coldness of the extremities, a tendency to fainting in an erect posture, and a sighing in respiration, involuntary discharges, and difficult deglutition.

2. The symptoms of *debility*, the most frequent cause of which is contagion applied to the body, are best counteracted by the free access of cold air, which corrects and even destroys its action.

In some cases, cold water has even been successfully applied for this purpose.

Debility is greatly moderated by the action of tonic and stimulating remedies. To this head belongs the use of bark and wine, and nitric or muriatic acid diluted with water. Bark ought chiefly to be employed in cases of remission, with a soft skin, where the secretions, at least once in twenty-four hours, are somewhat more liberal. In case of violent heat, a dryness of the skin, a very quick pulse, and symptoms of local congestion, the affusion of water, cold or lukewarm, according to the feeling of the patient, may be employed. If general affusion is much dreaded, the patient should be diligently and frequently spunged;—the *hotter* the state of the skin, the *colder* should be the fluid applied, whether it be water, or equal parts of vinegar and water.

3. The symptoms indicating a tendency to *putrefaction*, are a loathing of food, great thirst, and a desire for acids; the blood loose in its texture; hæmorrhage from the organs of secretion, without marks of great excitement; effusions under the skin, producing petecial and livid eruptions; frequent loose and fœtid stools, with little relief; fœtid urine, and a cadaverous smell of the whole body.

These alarming symptoms are obviated by removing the patient from putrid or corrupted air, whenever this is practicable; by a frequent change of bed-clothes and linen; by vegetable and acescent food; by evacuating the contents of the bowels by cooling and acescent purgatives, such as crystals of tartar and tamarinds, or, what is still better, an occasional dose of Seidlitz powders.—See Appendix, *Seidlitz powders*, which, likewise, by their antiseptic and diluent effect, correct the general state of the animal fluids.

When symptoms of putrefaction are accompanied with symptoms of great debility, then bark-wine and yeast may be employed with advantage.

In these remarks on the general cure of fever, we have spoken rather of *general indications* than of the application of *particular remedies*.—Ed.]

CHAP. XVII.

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 inhabitants 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 camomile-tea; or, if his spirits be low, small wine-whey, sharpened with the

juice of lemon. All his drink should be warm, as that will assist in bringing on the sweat, and consequently shorten the paroxysm.*

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

As the chief intentions of cure in an ague are to brace the solids, and promote perspiration, the patient ought to take as much exercise between the fits as he can bear. If he be able to go abroad, riding on horseback, or in a carriage, will be of great service. But if he cannot bear that kind of exercise, he ought to take such as his strength will permit. Nothing tends more to prolong an intermitting fever, than indulging a lazy indolent disposition.

Intermitting fevers, under a proper regimen, will 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, 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 dram 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 camomile-tea. The vomit should be taken two or three hours before

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

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 Epsom salt, 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, viz. in powder.

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

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

[* A late writer tells us, that he gave five grains of the sub-carbonate of ammonia, with an equal quantity of camphor, and half a scruple of confection of opium, to cure the intermittents of Walcheren, better and speedier than any other medicines.—Ed.]

† 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 adminis-

The above quantity of bark will frequently cure an ague; the patient, however, ought not to leave off taking the medicine as soon as the paroxysms are stopped, but should continue to use it till there is reason to believe the disease is entirely overcome. Most of the failures in the cure of this disease are owing to patients not continuing to use the medicine long enough. They are generally directed to take it till the fits are stopped, then to leave it off, and begin again at some distance of time; by which means the disease gathers strength, and often returns with as much violence as before. A relapse may always be prevented by the patient's continuing to take doses of the medicine for some time after the symptoms disappear. This is both the most safe and effectual method of cure.

An ounce of gentian root, calamus aromaticus, and orange-peel, of each half an ounce, with three or four handfuls of camomile-flowers, and 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 tea-pot, and an English pint of boiling water poured on them. A cup of this infusion drank three or four times a day, will greatly promote the cure. Such patients as cannot drink the watery infusion, may put two handfuls of the same ingredients into a bottle of white wine, and take a glass of it twice or thrice a day. If patients drink freely of the above, or any other proper infusion of bitters, a smaller quantity of bark than is generally used will be sufficient to cure an 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 wine-glass may be drank three or four times a day, or oftener, as there is occasion. If a decoction be more agreeable, an ounce of the bark, and two drams of snake-root bruised, with an equal quantity of salt of

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tered 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.

* There is reason to believe, that sundry of our own plants, or barks, which are very bitter and astringent, 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: and to beware especially of those ignorant druggists who pretend to sell *cheap drugs*.

wormwood, may be boiled in a quart of water, to an English pint. To the strained liquor may be added an equal quantity of red wine, and a glass of it taken frequently.

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

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

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

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

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

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

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

Where agues are endemical, even children are often afflicted with that disease. Such patients are very difficult to cure, as they can seldom be prevailed upon to take the bark, or any other disagreeable medicine. One method of rendering this medicine more palatable, is to make it into a mixture with distilled waters and syrup, and afterwards to give it an 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 tea-spoonful of the spirit of hartshorn. Exercise is likewise of considerable service; and when the disease proves obstinate, the child ought, if possible, to be removed to a warm dry air. The food ought to be nourishing, and sometimes a little generous wine should be allowed.

To children, and such as cannot swallow the bark, or when the stomach will not bear it, it may be given by clyster. Half

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* Arsenic has of late been recommended as an infallible remedy in the ague. [The preparation used for this purpose is called "Fowler's Solution," or "Tasteless Ague Drops."—The dose is from three drops to six, two or three times a day, in any weak liquid: but we would advise that it should be used only under the eye of a physician.—Ed.]

† See Appendix, *Saline Mixture.*—[In many adult cases, where the stomach rejects bark, and especially for children, we have pretty generally succeeded by administering from one to three grains of sulphate of zinc or white vitriol, every two or three hours, during the intermission.—Ed.]

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

Take an ounce of the best Peruvian bark; Virginian snakeroot, and orange peel, of each half an ounce; bruise them all together, and infuse for five or six days in a bottle of brandy, Holland gin, or any good spirit; afterwards pour off the clear liquor, and take a wine-glass of it twice or thrice a day. This indeed is recommending a dram; but the bitter ingredients in a great measure take off the ill effects of the spirit. Those who do not choose it in brandy, may infuse it in wine; and such as can bring themselves to chew the bark, will find that method succeed very well. Gentian root, or calamus aromaticus, may also be chewed by turns for the 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 farther argument my former cau-

tion 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 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, as 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 that was the effect of its operation or not; and, if it was, whether, in stopping the fits, their wonder-working nostrum may not have vitiated the humours, 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. XVIII.

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 vigour 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 any thing that overheats the body, or produces plethora, as violent exercise, sleeping in the sun, drinking strong liquors, eating spiceries, a full diet, with little exercise, &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 rigour or chilliness generally ushers in this fever, which is soon succeeded by great heat, a frequent and full pulse, pain of the head, dry skin, redness of the eyes, a florid countenance, pains in the back, loins, &c. To these succeed difficulty of breathing, and 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, hiccup, 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 endeavours.

Regimen.—From the symptoms of this disease, it is evident that the blood and other humours require to be attenuated; that the perspiration, urine, saliva, and all the other secretions, are in too small quantity; that the vessels are rigid, and the heat of the whole body too great: all these clearly point out the necessity of a regimen calculated to dilute the blood, correct the acrimony of the humours, allay the excessive heat, remove the spasmodic stricture of the vessels, and promote the secretions.

These important purposes may be greatly promoted by drinking plentifully of diluting liquors; as water-gruel, or oatmeal tea, clear whey, barley water, balm tea, apple tea, &c. These may be sharpened with juice of orange, jelly of currants, raspberries, and such like: orange-whey is likewise an excellent cooling drink. It is made by boiling among milk and water a bitter orange sliced, till the curd separates. If no orange can be had, a lemon, a little cream of tartar, or a few 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 tea-cup full 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,

* See Appendix, *Pectoral Decoction.*

but more freely afterwards, in order to assist in carrying off the disease by promoting the different excretions. We have mentioned a variety of drinks, that the patient may have it in his power to choose those which are most agreeable, and that, when tired of one, he may have recourse to another.

The patient's diet must be very spare and light. All sorts of flesh-meats, and even chicken broths, are to be avoided. He may be allowed groat-gruel, panado, or light bread boiled in water; to which may be added a few grains of common salt, and a little sugar, which will render it more palatable. He may eat roasted apples with a little sugar, toasted bread with jelly of currants, boiled prunes, &c.

It will greatly relieve the patient, especially in a hot season, to have fresh air frequently let into his chamber. This however, must always be done in such a manner as not to endanger his catching cold.

It is too common in fevers to load the patient with bedclothes, under the pretence of making him sweat, or defending him from the cold. This custom has many ill effects. It increases the heat of the body, fatigues the patient, and retards, instead of promoting, the perspiration.

Sitting upright in bed, if the patient be able to bear it, will often have a good effect. It relieves the head, by retarding the motion of the blood to the brain. But this posture ought never to be continued too long: and if the patient be inclined to sweat, it will be more safe to let him lie, only raising his head a little with pillows.

Sprinkling the chamber with vinegar, juice of lemon, or vinegar and rose water, with a little nitre dissolved in it, will greatly refresh the patient. This ought to be done frequently, especially if the weather be hot.

The patient's mouth should be often washed with a mixture of water and honey, to which a little vinegar may be added, or with a decoction of figs in barley water. His feet and hands ought likewise frequently to be bathed in lukewarm water; especially if the head be affected.

The patient should be kept as quiet and easy as possible. Company, noise, and every thing that disturbs the mind, is hurtful. Even too much light, or any thing that affects the senses, ought to be avoided. His attendants should be as few as possible, and they ought not to be too often changed. His inclinations ought rather to be soothed than contradicted; even the promise of what he craves will often satisfy him as much as its reality.

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 twenty-four hours from each other, as the symptoms require. If the pulse continue soft, and the patient be tolerably easy after the first bleeding, it ought not to be repeated.

If the heat and fever be very great, forty or fifty drops of the dulcified or sweet spirit of nitre, from twenty to thirty drops of antimonial wine, and half an ounce of solution of acetate of ammonia, may be made into a draught with an ounce of water and a little 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.

[We shall now introduce a remedy of no common efficacy, to the notice of our readers—we mean *water*, sometimes cold, and sometimes in a tepid state, freely and repeatedly applied to the surface of the body. This is not only useful, but extremely grateful to the sick, when applied to a flushed and parched skin:—let the patient's feelings bear testimony.

We are decidedly of opinion, and that opinion is founded on five-and-twenty years' experience, that we do not possess one remedy of such extensive usefulness for arresting the febrile course, and moderating or abstracting the morbid excess of heat, as *cold bathing*.

The practice of bathing in fevers, appears, indeed, to be of great antiquity, for its use and management were well known to Galen, and are well defined by him. The notice which this invaluable remedy has attracted in England, has certainly, however, been owing to the popular manner in which the subject has been treated by the late Dr. Currie of Liverpool. We shall give further directions on this subject, under the head of "Typhus or Putrid Fever." Let it be observed here, that affusion with cold water, either by means of a large watering-pot, so as to allow the streams to pour on the head and shoulders with some force, or by dashing it out of a pail, may be boldly resorted to at the commencement of the greater number of fevers in Great Britain, where no catarrhal symptoms, or inflammatory affection of the lungs, are present; but in the advanced stages, or latter periods of most, and where there is much debility, this remedy should be adopted with due caution, and a careful consideration of the attendant circumstances.—Ed.]

If the patient be afflicted with retching, or an inclination to vomit, it will be right to assist Nature's attempts, by giving him from twenty to thirty grains of ipecacuanha, and encou-

raging vomiting by large draughts of weak camomile tea or lukewarm water.

If the body be bound, administer thirty or forty grains of the *purging powder*;* 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 tea-spoonful of magnesia, or cream of tartar, may be frequently put into his drink. He may likewise eat tamarinds, boiled prunes, roasted apples, and, if there is a tendency to nausea or great thirst, the common saline draught, in a state of effervescence, may be taken frequently.

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 favourable 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, ancles, 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 likewise 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 dram 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 tea-cupful drank every hour till it operates. This dose may be repeated twice or thrice, five or six days intervening.

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* See Appendix—"*Purging powder.*"

Those who follow laborious employments ought not to return too soon to their labour 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 boils, 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, endeavour 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 ardour 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 admission 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 those two descriptions of people, however different, terminate in the same point, and that is, the grave. Fevers make a dreadful havock among the human race; but their ravages are considerably increased by the misconduct and perverseness of the unfortunate sufferers themselves.

CHAP. XIX.

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 labouring people, especially such as work without doors, and are of a sanguine constitution. It is most frequent in the spring season.

CAUSES.—The pleurisy may be occasioned by whatever obstructs the perspiration; as cold northerly winds; drinking cold liquors when the body is hot; sleeping without doors on the damp ground; wet clothes; plunging the body into cold water, or exposing it to the cold air, when covered with sweat, &c. It may likewise be occasioned by drinking strong liquors; by the stoppage of usual evacuations; as old ulcers, issues, sweating of the feet or hands, &c. the sudden striking in of any eruption, as the itch, the measles, or the small-pox. Those who have been accustomed to bleed at a certain season of the year, are apt, if they neglect it, to be seized with a pleurisy. Keeping the body too warm by means of fire, clothes, &c. renders it more liable to this disease. A pleurisy may likewise be occasioned by violent exercise, as running, wrestling, leaping, or by supporting great weights, 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 forepart 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

[* There is little foundation for distinguishing between the pleurisy and peripneumony, being affections of the same parts, arising from the same causes, and requiring the same method of cure. They might therefore be considered under one head: but we would not disturb the author's arrangement, as the change would yield no material advantage.—ED.]

urine high-coloured; and, if blood be let, it is covered with a tough crust, or buffy coat. The patient's spittle is at first thin, but afterwards it becomes grosser, and is often streaked with blood.

Regimen.—Nature generally endeavours to carry off this disease by a critical discharge of blood from some part of the body, by expectoration, sweat, loose stools, thick urine, or the like. We ought therefore to second her intentions by lessening the force of the circulation, relaxing the vessels, diluting the humours, and promoting expectoration.

For these purposes, the diet, as in the former disease, ought to be cool, slender, and diluting. The patient must avoid all food that is viscid, hard of digestion, or that affords much nourishment; as flesh, butter, cheese, eggs, milk, and also every thing that is of a heating nature. His drink may be whey, or an infusion of pectoral and balsamic vegetables.*

Barley-water, with a little honey or jelly of currants mixed with it, is likewise a very proper drink in this disease. It is made by boiling an ounce of pearl-barley in three English pints of water to two, which must afterwards be strained. The decoction of figs, raisins, and barley, recommended in the preceding disease, is here likewise very proper. These and other diluting liquors are not to be drank in large quantities at a time; but the patient ought to keep continually sipping them, so as to render his mouth and throat always moist. All his food and drink should be taken a little warm.

The patient should be kept quiet, cool, and every way easy, as directed under the foregoing disease. His feet and hands ought daily to be bathed in lukewarm water; and he may sometimes sit up in bed for a short space, in order to relieve his head.

Medicine.—Almost every person knows, when a fever is attended with a violent pain of the side, and a quick hard pulse, that bleeding is necessary. When these symptoms come on, the sooner this operation is performed, the better; and the quantity at first must be pretty large, provided the patient be able to bear it. A large quantity of blood let at once in the beginning of a pleurisy, has a much better effect than repeated small bleedings. A man may lose fourteen or twenty 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 let ten or twelve ounces more. If the symptoms do not then abate, and the blood

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* See Appendix, *Pectoral Infusion.*

shews 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.

[To diminish the action of the heart and arteries, it has been proposed in this disease, also in peripneumony and most fevers with inflammation, to administer the foxglove.—In addition to early and copious bleeding, this remedy may probably have a good effect, but it ought never to be relied on alone. Where much systematic debility and pulmonic irritation prevail, with frequent coughing, difficult respiration, dry heated skin, and a rapid hard pulse, notwithstanding we have bled freely in the early stage of the disease, we may then give half a grain of the powder, or from ten to twenty drops of the tincture, of foxglove, three or four times in twenty-four hours: it is not safe, however, to administer this powerful but valuable medicine without a physician's direction.—Ed.]

The blood may be many ways attenuated without bleeding. There are likewise many things that may be done to ease the pain of the side without this operation, as fomenting, blistering, &c. Fomentations may be made by boiling a handful of flowers of elder, camomile, and common mallows, or any other soft vegetables, in a proper quantity of water. The herbs may be either put into a flannel bag, and applied warm to the side, or flannels may be dipped in the decoction, afterwards wrung out, and applied to the part affected with as much warmth as the patient can easily bear. As the cloths grow cool, they must be changed, and great care taken that the patient do not catch cold. A bladder may be filled with warm milk and water, and applied to the side, if the above method of fomenting be found inconvenient. Fomentations not only ease the pain, but relax the vessels, and prevent the stagnation of the blood and other humours. The side may likewise be frequently rubbed with a little of the volatile liniment.*

Topical bleeding has often a very good effect in this disease. It may either be performed by applying a number of leeches to the part affected, or by cupping, which is both a more certain and expeditious method than the other.

Leaves of various plants might likewise be applied to the patient's side with advantage. I have often seen great benefit from young cabbage leaves applied warm to the side in a pleurisy. These not only relax the parts, but likewise draw off a little moisture, and may prevent the necessity of blistering-plasters; which, however, when other things fail, must be applied.

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* See Appendix, *Volatile Liniment.*

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 that means assists in removing the cause of the disease. To prevent a strangury when the blistering-plaster is on, the patient may drink freely of the Arabic emulsion.*

If the patient be costive, we may exhibit a gentle aperient draught of Epsom salts and senna: a clyster of thin water-gruel, or of barley-water, in which a handful of mallows, or any other emollient vegetable, has been boiled, may be daily administered. This will not only empty the bowels, but have the effect of a warm fomentation applied to the inferior viscera, which will help to make a derivation from the breast.

The expectoration may be promoted by sharp, oily, and mucilaginous medicines. For this purpose, an ounce of the oxymel, or the vinegar of squills, may be added to six ounces of the pectoral decoction, and two table-spoonfuls of it taken every two hours. Twenty or thirty drops of antimonial wine may be added to each dose of either of these medicines, or the same may be advantageously added to the patient's common drink.

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 sugarcandy powdered as will make an electuary of the consistence of honey. The patient may take a tea-spoonful of this frequently, when the cough is troublesome. Should oily medicines prove nauseous, which is sometimes the case, two table-spoonfuls of the solution of gum-ammoniac in barley-water may be given three or four times a day.‡

If the patient does not perspire, but has a burning heat upon his skin, and passes very little water, some small doses of purified nitre and camphire will be of use. Two drams of the former may be rubbed with five or six grains of the latter in a mortar, and the whole divided into six doses, one of which may be taken every five or six hours, in a little of the patient's ordinary drink.

We shall only mention one medicine more, which some reckon almost a specific in the pleurisy, viz. the decoction of the seneka (rattlesnake) root.§ After bleeding and other evacuations have been premised, the patient may take two, three, or four table-spoonfuls of this decoction, according as his

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* See Appendix, *Arabic Emulsion.*

† See Appendix, *Oily Emulsion.*

‡ See Appendix, *Solution of Gum Ammoniac.*

§ See Appendix, *Decoction of Seneka Root.*

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 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 butter-milk, 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 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.

Of the Paraphrenitis.

The *paraphrenitis*, or inflammation of the diaphragm, is so

nearly connected with the pleurisy, and resembles it so much in the manner of treatment, that it is scarcely necessary to consider it as a separate disease.

It is attended with a very acute fever, and an extreme pain in the part affected, which is generally augmented by coughing, sneezing, drawing in the breath, taking food, going to stool, making water, &c. Hence the patient breathes quick, and draws in his bowels to prevent the motion of the diaphragm; is restless, anxious, has a dry cough, a hiccup, and often a delirium. A convulsive laugh, or rather a kind of involuntary grin, is no uncommon symptom of this disease.

Every method must be taken to prevent a suppuration, as it is impossible to save the patient's life when this happens. The regimen and medicine are in all respects the same as in the pleurisy. We shall only add, that in this disease, emollient clysters are peculiarly useful, as they relax the bowels, and by that means make a derivation from the part affected.

CHAP. XX.

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 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 such as are afflicted with an asthma, especially in the decline of life. Sometimes the inflammation reaches to one lobe of the lungs only, at other times the whole of the organ is affected; in which case the disease can hardly fail to prove fatal.

When the disease proceeds from a viscid pituitous matter obstructing the vessels of the lungs, it is called a *spurious* or *bastard peripneumony*. When it arises from a thin acrid defluxion on the lungs, it is denominated a *catarrhal peripneumony*, &c.

Causes.—An inflammation of the lungs is sometimes a primary disease, and sometimes it is the consequence of other diseases, as a quinsy, a pleurisy, &c. It proceeds from the same causes as the pleurisy, viz an obstructed perspiration from cold, wet clothes, &c. or from an increased circulation of the blood by violent exercise, the use of spiceries, ardent spirits, and such like. The pleurisy and peripneumony are often complicated; in which case the disease is called a *pleuroperipneumony*.

SYMPTOMS.—Most of the symptoms of a pleurisy likewise attend an inflammation of the lungs; only in the latter the pulse is more soft, and the pain less acute; but the difficulty of breathing, and oppression of the breast, are generally greater.

REGIMEN.—As the regimen and medicine are in all respects the same in the true peripneumony as in the pleurisy, we shall not here repeat them, but refer the reader to the treatment of that disease. 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 humours. If the patient have loose stools, but is not weakened by them, they are not to be stopped, but rather promoted by the use of emollient clysters.

It has already been observed, that the *spurious* or *bastard* peripneumony is occasioned by a viscid pituitous matter obstructing the vessels of the lungs. It commonly attacks the old, infirm, and phlegmatic, in winter and wet seasons.

The patient at the beginning is cold and hot by turns, has a small quick pulse, feels a sense of weight upon his breast, breathes with difficulty, and sometimes complains of a pain and giddiness of his head. His urine is usually pale, and his colour very little changed.

The diet, in this as well as in the true peripneumony, must be very slender, as weak broths sharpened with the juice of orange or lemon, and such like. His drink may be thin water-gruel sweetened with honey, or a decoction of the roots of fennel, liquorice, and quick-grass. An ounce of each of these may be boiled in three English pints of water to a quart, and sharpened with a little currant-jelly, or the like.

Bleeding and purging are generally proper at the beginning of this disease. It will be sufficient to assist the expectoration by some of the sharp medicines recommended for that purpose in the pleurisy, as the solution of gum-ammoniac with oxymel of squills, &c. 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.

[Inflaming the skin immediately over the part affected with pain, by the application of a large blister, is the next proper step to be adopted after bleeding; and should it shew a dispo-

sition to heal up soon, a fresh one ought to be applied in the vicinity of the other, so as to keep up a constant effect; which mode of proceeding will be *far preferable* to keeping the blistered parts open with any kind of stimulating ointment, as is often practised. Blisters may be used in any stage of the disease, and in many cases in which bloodletting cannot be carried far enough, or cannot be employed at all: in the *bastard pleurisy*, or *bastard peripneumony*, of old people they prove very beneficial. In addition to other means, in this as well as every affection of the chest, few auxiliary remedies have proved more efficacious than the steam of warm water, either alone or impregnated with vinegar, copiously and easily inhaled, by means of the late Dr. Mudge's machine, or a simple tin vessel with a tube attached to the cover.—ED.]

When an inflammation of the breast does not yield to bleeding, blistering, and other evacuations, it commonly ends in suppuration, which is more or less dangerous, according to the part where it is situated. When this happens in the pleura, it sometimes breaks outwardly, and the matter is discharged by the wound.

When the suppuration happens within the substance or body of the lungs, the matter may be discharged by expectoration; but if the matter floats in the cavity of the breast, between the pleura and the lungs, it can only be discharged by an incision made betwixt the ribs.

If the patient's strength do not return after the inflammation is to all appearance removed; if his pulse continue quick though soft, his breathing difficult and oppressed; if he have cold shiverings at times, his cheeks flushed, his lips dry; and if he complain of thirst, and want of appetite,—there is reason to fear a suppuration, and that a phthisis or consumption of the lungs will ensue. We shall therefore next proceed to consider the proper treatment of that disease.

CHAP. XXI.

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 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 scrofula, or king's-evil, the venereal disease, the asthma, small-pox, measles, &c.

As this disease is seldom cured, we shall endeavour the more particularly to point out its causes, in order that people may be enabled to avoid it. These are:

—Confined or unwholesome air; when this fluid is impregnated with the fumes of metals or minerals, it proves extremely hurtful to the lungs, and often corrodes the tender vessels of that necessary organ.

—Violent passions, exertions, or affections of the mind; as grief, disappointment, anxiety, or close application to the study of abstruse arts or sciences.

—Great evacuations; as sweating, diarrhœas, diabetes, excessive venery, the fluor albus, an 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 *bronchæ*. It was afterwards vomited along with a consider-

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[* Pulmonary consumption does not often occur until after the age of puberty, but in some cases it is evidently formed before that period by tubercles forming in the lungs. Women are more subject to it than men, as well from their going more slightly clad, as from the greater delicacy of their organization.—Ed.]

[† That consumptive mortality has very considerably increased in England within the last century, cannot be denied: and according to the calculations of the late Dr. Woolcombe of Plymouth, and our own inquiry, the annual victims to consumption in this island are not less than fifty-five thousand persons, out of a population of eleven millions. This dreadful disease may be designated the *Plague of Great Britain*, and should be early and skilfully treated, otherwise suppuration will take place, and consume the substance of the lungs.—Ed.]

able 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, taylors, shoemakers, seamstresses, &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 sometimes depends on malconformation of the chest; in others it is 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, viz. the one towards night, and the other in the morning. A looseness, and an excessive discharge of urine, are often troublesome symptoms at this time, and greatly weaken the patient. There is a burning heat in the palms of the hands,

and the face generally flushes after eating; the fingers become remarkably small, the nails are bent inwards, and the hairs fall off.

At last the swelling of the feet and legs, the total loss of strength, the sinking of the eyes, the difficulty of swallowing, and the coldness of the extremities, shew the immediate approach of death, which, however, the patient seldom believes to be so near. Such is the usual progress of this fatal disease, which, if not early checked, commonly sets all medicine at defiance.

REGIMEN.—On the first appearance of a consumption, if the patient live in a large town, or any place where the air is confined, he ought immediately to quit it, and to make choice of a situation in the country, where the air is pure and free. Here he must not remain inactive, but take every day as much exercise as he can bear.

The best method of taking exercise is to ride on horseback, as this gives the body a great deal of motion without much fatigue. Such as cannot bear this kind of exercise, must make use of a carriage. A long journey, as it amuses the mind by a continual change of objects, is greatly preferable to riding the same ground over and over. Care, however, must be taken to avoid catching cold from wet clothes, damp beds, or the like. The patient ought always to finish his ride in the morning, or at least before dinner; otherwise it will oftener do harm than good.

It is pity those who attend the sick seldom recommend riding in this disease, till the patient is either unable to bear it, or the malady has become incurable. Patients are likewise apt to trifle with every thing that is in their own power. They cannot see how one of the common actions of life should prove a remedy in an obstinate disease, and therefore they reject it, while they greedily hunt after relief from medicine, merely because they do not understand it.

Those who have strength and courage to undertake a pretty long voyage, may expect great advantage from it. This, to my knowledge, has frequently cured a consumption after the patient was, to all appearance, far advanced in that disease, and where medicine had proved ineffectual. Hence it is reasonable to conclude, that if a voyage were undertaken in due time, it would seldom fail to perform a cure.*

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* 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.

Such as try this method of cure ought to carry as much fresh provisions along with them as will serve for the whole time they are at sea. As milk is not easily obtained in this situation, they ought to live upon fruits, and the broth of chickens, or other young animals which can be kept alive on board. It is scarcely necessary to add, that such voyages should be undertaken, if possible, in the mildest season, and that they ought to be towards a warmer climate.*

Those who have not courage for a long voyage, may travel into a more southern climate, as the south of France, Spain, or Portugal; and if they find the air of these countries agree with them, they should continue there at least till their health be confirmed.

Next to proper air and exercise, we would recommend a due attention to diet. The patient should eat nothing that is either heating or hard of digestion, and his drink must be of a soft and cooling nature. All the diet ought to be calculated to lessen the acrimony of the humours, and to nourish and support the patient. For this purpose, he must keep chiefly to the use of vegetables and milk. Milk alone is of more value in this disease than the whole *materia medica*.

Asses' milk is commonly reckoned preferable to any other; but it cannot always be obtained; besides, it is generally taken in a very small quantity; whereas, to produce any effects, it ought to make a considerable part of the patient's diet. It is hardly to be expected, that a gill or two of asses' milk, drank in the space of twenty-four hours, should be able to produce any considerable change in the humours of an adult; and when people do not perceive its effects soon, they lose hope, and so leave it off. Hence it happens, that this medicine, however valuable, very seldom performs a cure. The reason is obvious; it is commonly used too late, is taken in too small quantities, and is not duly persisted in.

I have known very extraordinary effects from asses' milk in obstinate coughs, which threatened a consumption of the lungs; and do verily believe, if used at this period, that it would seldom fail; but if it be delayed till an ulcer is formed, which is generally the case, how can it be expected to succeed?

Asses' milk ought to be drank, if possible, in its natural warmth, and, by a grown person, in the quantity of half an English pint at a time. Instead of taking this quantity night and morning only, the patient ought to take it four times, or at least thrice, a day, and to eat a little light bread along with it, so as to make it a kind of meal.

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* Though I do not remember to have seen one instance of a genuine consumption of the lungs cured by medicine, yet I have known a West-India voyage work wonders in that dreadful disorder.

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.

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 goose or currant-berry tarts, apples roasted, or boiled in milk, &c. The jellies, conserves, and preserves, &c. of ripe subacid fruits, ought to be eaten plentifully, as the jelly of currants, conserve of roses, preserved plums, cherries, &c.

Wholesome air, proper exercise, and a diet consisting chiefly of these and other vegetables, with milk, is the only course that can be depended on in a beginning consumption.—In cases of incipient phthisis, a free use of butter-milk has frequently been attended with much advantage. In order to make it sit easy on the stomach, it should at first be taken sparingly, and the quantity gradually be increased.

In a populous town in England,* where consumptions are very common, I have frequently seen consumptive patients, who had been sent to the country with orders to ride, and live upon milk and vegetables, return in a few months quite plump, and free from any complaint. This indeed was not always the case, especially when the disease was hereditary, or far advanced; but it was the only method in which success was to be expected: where it failed, I never knew medicine succeed.

If the patient's strength and spirits flag, he must be supported by strong broths, jellies, and such like. Some recommend shell-fish in this disorder, and with some reason, as they are nourishing and restorative.† All the food and drink ought, however, to be taken in small quantities, lest an overcharge of fresh chyle should oppress the lungs, and too much accelerate the circulation of the blood.

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 every thing 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 endeavours, yet we shall mention a few things which may be of service in relieving some of the more violent symptoms.‡

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* Sheffield.

† 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.

[‡ The cure of this disease is extremely difficult, therefore the approach of it should be carefully watched, before it proceeds to a state of suppuration, particularly in hereditary habits.

In all cases of hœmoptoe, or spitting of blood, more especially when depending on a powerful predisposition, a suppuration is to be dreaded, and is best prevented by large and repeated bleedings, the coolest and most acescent regimen, avoiding exercise of the body, and keeping the belly soluble by the gentlest laxatives.

The dangerous effects of a catarrhous cough are best prevented by attending to the degree of inflammatory diathesis which accompanies it; by the use of Mudge's Inhaler, as recommended under Peripneumony; by the judicious administration of the foxglove, as pointed out at page 160, (see Pleurisy); and by moderating the cough with syrup of poppies, or small doses of laudanum.

Suppuration in the lungs, or within the cavity of the chest, is often prevented by setons, issues, or open blisters on the chest: and we have found the liniment of tartarized antimony (see Appendix) of decided utility in such threatening cases, when applied freely over the chest.

It may be necessary to observe here, that the external parts should be well defended from the cold air, by wearing flannel next the skin, by wearing a leathern waistcoat, and by keeping the feet warm and dry.

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 table-spoonful 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, while they clog the stomach, 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; 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, camomile flowers, or water-trefoil. These infusions may be drank at

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In cases of hectic, accompanied with early debility, and very little apparent inflammation, we have experienced good effects from myrrh, as recommended by the late Dr. Griffith.—See Appendix, *Compound Mixture of Iron.*

In the tubercular, or true scrofulous consumption, Dr. Crighton, of Petersburg, has seen very great benefit derived from the use of tar fumigation. He found that it heals the ulcers, and subdues the inflammation of the tubercles: but in cases of suppuration succeeding active hæmorrhages, accompanied with fever, in young persons, little or no advantage was derived from the remedy. It is also of importance to know, that the use of the fumigations should not be continued after the cough, expectoration, and hectic symptoms, are greatly subdued, and that patients should not again expose themselves hastily to cold air. The simplest and best manner of filling a room with the vapour from tar, is to place the vessel containing it over a spirit lamp, taking care that it boils slowly, and does not burn.—Ed.]

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 mucilaginous roots, plants, &c.*

There are many plants and seeds, of a healing and agglutinating nature, from which decoctions or infusions may be prepared with this intention; as the orchis, the quince-seed, coltsfoot, Iceland moss, 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: 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, shew 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 humours 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 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 menstruum for extracting the virtues of that drug. Half an ounce of bark in powder may be infused for twenty-four hours in half an English pint of water. Afterwards, let it be passed through a fine strainer, and an ordinary tea-cupful 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.

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* See Appendix, *Vulnerary Decoction.*

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 endeavour to make it break inwardly, by drawing in the steams of warm water or vinegar with his breath; 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, camomile, horehound, &c. These may be infused in water or wine, and a glass of it drank frequently.

It will greatly assist the digestion, and promote the cure of this disease, to take twice a day, twenty or thirty drops of the elixir of vitriol in a glass of wine or infusion of cascarilla. The chalybeate wine is likewise an excellent medicine in this case.*

Agreeable amusements, cheerful company, and riding about,

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* See Appendix, *Chalybeate Wine.*

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: but in almost every instance, a mild purgative, occasionally administered, will be found salutary, by emptying the bowels of accumulated and offensive matter.*

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 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's, 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

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[* In children of a scrofulous habit, atrophy, or emaciation of the whole body, is often accompanied with an enlargement of the mesenteric glands; and then indigestion, costiveness, or purging, irregular appetite, flushed cheeks, or a total loss of colour, impaired strength and spirits, remitting fever, and a hard and tumid belly, prevail.

In a general way, the principal indications in such cases are, to remove the obstructions in the lymphatic system, and effect a resolution of the indurated glands of the mesentery, by the use of mercurial and antimonial medicines, by frictions to the belly, and by employing a tepid water bath, strongly impregnated with common salt.—Ed.]

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 in its source.*

In tracing the various causes of consumptions, I entered into minuter details, to put people more upon their guard, as the disease, when deeply seated, seldom admits of a cure. Not but there are plenty of persons in London, who confidently undertake to perform cures in the most hopeless stages of the complaint, though physicians have not been so happy as to find out the art. Perhaps, the only art which the others have discovered, or which they have ever studied, is the *art of impudence and deception.*

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 until it overtakes them, when it is generally too late to prevent the fatal consequences.

CHAP. XXII.

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.

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 an use of purgative medicines, or any other excessive evacuations, are most liable to this disease.

Keeping on wet clothes, lying on the damp ground, excessive fatigue, and whatever obstructs the perspiration, or causes a spasmodic stricture of the solids, may likewise occasion nervous fevers. We shall only add, frequent and great irregularities in diet. Too great abstinence, as well as excess, is hurtful. Nothing tends so 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 a giddiness and pain of the head, has a nausea, with retchings and vomiting; the pulse is quick, and sometimes intermitting; the urine pale, resembling dead small beer, and the breathing is difficult, with oppression of the breast, and slight alienations of mind.

If, towards the ninth, tenth, or twelfth day, the tongue becomes more moist, with a plentiful spitting, a gentle purging, or a moisture upon the skin; or if a suppuration happen in one or both ears, or large pustules break out about the lips and nose,—there is reason to hope for a favourable crisis.

But if there be an excessive looseness, or wasting sweats, with frequent fainting fits; if the tongue, when put out, trembles excessively, and the extremities feel cold, with a fluttering or slow creeping pulse; if there be a starting of the tendons, an almost total loss of sight and hearing, and an involuntary discharge by 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 pa-

tient's imagination gloomy or frightful ideas. These of themselves often occasion nervous fevers, and it is not to be doubted but they will likewise aggravate them.

The patient must not be kept too low. His strength and spirits ought to be supported by nourishing diet and generous cordials. For this purpose, his gruel, panado, or whatever food he takes, must be mixed with wine, according as the symptoms may require. Pretty strong wine whey, or small 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 many 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 stomach, 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 mixture,† 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.‡

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* See Appendix, *Mustard Whey*.

† See Appendix, *Vomiting Mixture*.

‡ Affusing the body with cold water, is one of the most powerful and efficacious means which we can employ in this fever, but its effects will

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, preceded by three or four grains of calomel.

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 or mild typhus fevers, where nature flags, where the blood is poor, and the solids relaxed, the lancet must be spared, and wine, with other cordials, plentifully administered.

It is the more necessary to caution people against bleeding in this disease, as there is generally at the beginning an universal stricture upon the vessels, and sometimes an oppression and difficulty of breathing, which suggest the idea of a plethora, or too great a quantity of blood. I have known even some of the faculty deceived by their own feelings in this respect, so far as to insist upon being bled, when it was evident from the consequences that the operation was improper: there are some exceptions to this.

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 that means 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 critical 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

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be more salutary in proportion as it is adopted early, or during the first stage of the disease. Such being an indisputable fact, established upon the firmest basis, we ought always to employ it during the first, second, or third day of excitement; always observing to apply it *when the heat of the body is steadily above the temperature of health.*

In a more advanced stage of the fever, it will be advisable to substitute tepid affusion; and when we do so, a small portion of ardent spirit and vinegar may be added to the water, with the view of increasing the evaporative process, on which its efficacy depends in a great measure. This subject will be resumed in the next chapter.—ED.]

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 doses of electuary of catechu, 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 or 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 camphire, and salt of hartshorn, as these tend to promote perspiration and the discharge of urine. Thus, fifteen grains of musk, with three grains of camphire, and six grains of salt of hartshorn, may be made into a bolus with a little syrup, and given as above.

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

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* See Appendix, *Electuary of Catechu* and *White Decoction.*

† When the patient is low, ten grains of Virginian snakeroot, and the same quantity of contrayerva root, with five grains of camphor, and the same of Russian castor, all in fine powder, may be made into a bolus with a little of the cordial confection of 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 this fever is likely to degenerate into the putrid or malignant, as is the case sometimes, we should administer the mineral acids, but more particularly the muriatic acid, in such doses as the patient is capable of bearing.—Ed.]

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.*—In this fever, wine is one of the best cordials; it may be given either by itself, diluted with water, or, what is better, made into whey; it is most grateful when cold; it renders the pulse slower and fuller, procures sleep, takes off dilirium, and supports the patient under profuse sweats and symptomatic eruptions.

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 that patient, to my great satisfaction, recovered, and enjoyed health for many years after.

CHAP. XXIII.

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 vigour has been wasted by long fasting, watching, hard labour, excessive venery, frequent salivations, &c. are most liable to it.

Causes.—This fever is occasioned by foul air, from a number of people being confined in a narrow place, not properly

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* The bark may likewise be very properly administered, along 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 tea-spoonfuls of it given three or four times a day in a glass of small wine or negus.

ventilated; from putrid animal and vegetable effluvia, &c. Hence it prevails in camps, jails, hospitals, and infirmaries, especially where such places are too much crowded, and cleanliness is neglected.

A close constitution of the air, with long rainy or foggy weather, likewise occasions putrid fevers. They often succeed great inundations in low and marshy countries, especially when these are preceded or followed by a hot and sultry season.

Living too much upon animal food, without a proper mixture of vegetables, or eating fish or flesh that has been kept too long, are likewise apt to occasion this kind of fever. Hence sailors on long voyages, and the inhabitants of besieged cities, are very often visited with putrid fevers. Corn that has been greatly damaged by rainy seasons, or long keeping, and water which has become putrid by stagnation, &c. may likewise occasion this fever.

Dead carcases tainting the air, especially in hot seasons, are very apt to occasion putrid diseases. Hence this kind of fever often prevails in countries which are the scenes of war and bloodshed. This shews 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 scarce walk, or even sit upright, without being in danger of fainting away. His mind too is greatly dejected: he sighs, and is full of dreadful apprehensions.

There is a nausea, and sometimes a vomiting of bile; a violent pain of the head, with a strong pulsation or throbbing of the temporal arteries; the eyes often appear red and inflamed, with a pain at the bottom of the orbit; there is a noise in the ears, the breathing is laborious, and often interrupted with a sigh; the patient complains of a pain about the region of the stomach, and in his back and loins; his tongue is at first white, but afterwards it appears black and chapped; and his

teeth are covered with a black crust. He sometimes passes worms both upwards and downwards, is affected with tremors or shaking, and often becomes delirious.

If blood be let, it appears dissolved, or with a very small degree of cohesion, and soon becomes putrid; the stools smell extremely fetid, and are sometimes of a greenish, black, or reddish cast. Spots of a pale, purple, dun, or black colour, often appear upon the skin, and sometimes there are violent hæmorrhages or discharges of blood from the mouth, eyes, nose, &c.

Putrid fevers may be distinguished from the inflammatory, by the smallness of the pulse, the great dejection of mind, the dissolved state of the blood, the petechiæ or purple spots, and the putrid smell of the excrements. They may likewise be distinguished from the low or nervous fever, by the heat and thirst being greater, the urine of a higher colour, and the loss of strength, dejection of mind, and all the other symptoms, more violent.

It sometimes happens, however, that the inflammatory, nervous, and putrid symptoms, are so blended together, as to render it very difficult to determine to which class the fever belongs. In this case, the greatest caution and skill are requisite. Attention must be paid to those symptoms which are most prevalent, and both the regimen and medicines adapted to them.

Inflammatory and nervous fevers may be converted into malignant and putrid, by too hot a regimen, or improper medicines.

The duration of putrid fevers is extremely uncertain; sometimes they terminate between the seventh and fourteenth day, and at other times they are prolonged for five or six weeks. Their duration depends greatly upon the constitution of the patient, and the manner of treating the disease.

The most favourable symptoms are, a gentle looseness after the fourth or fifth day, with a warm mild sweat. These, when continued for a considerable time, often carry off the fever, and should never be imprudently stopped. Small miliary pustules appearing between the petechiæ or purple spots, are likewise favourable, as also hot scabby eruptions about the mouth and nose. It is a good sign when the pulse rises upon the use of wine, or other cordials, and the nervous symptoms abate; deafness coming on towards the decline of the fever, is likewise often a favourable symptom, as are abscesses in the groin, or parotid glands.

Among the unfavourable symptoms, may be reckoned an excessive looseness, with a hard swelled belly; large black or livid blotches breaking out upon the skin; aphthæ in the mouth; cold clammy sweats; blindness; change of the voice; a wild

staring of the eyes; difficulty of swallowing; inability to put out the tongue; and a constant inclination to uncover the breast. When the sweat and saliva are tinged with blood, and the urine is black, or deposits a black sooty sediment, the patient is in great danger. Starting of the tendons, and 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 endeavour as far as possible to counteract the putrid tendency of the humours; to support the patient's strength and spirits; and to assist Nature in expelling the cause of this disease, by gently promoting perspiration and the other evacuations.

It has been observed, that putrid fevers are often occasioned by unwholesome air, and of course they must be aggravated by it. Care should therefore be taken to prevent the air from stagnating in the patient's chamber, to keep it cool, and renew it frequently, by opening the doors or windows of some adjacent apartment. The breath and perspiration of persons in perfect health soon render the air of a small apartment noxious; but this will sooner happen from the perspiration and breath of a person whose whole mass of humours are in a putrid state.

Besides the frequent admission of fresh air, we would recommend the use of vinegar, verjuice, juice of lemon, Seville orange, or any kind of vegetable acid that can be most readily obtained. These ought frequently to be sprinkled upon the floor, the bed, and every part of the room. They may also be evaporated with a hot iron, or by boiling, &c. The fresh skins of lemons or oranges ought likewise to be laid in different parts of the room, and they should be frequently held to the patient's nose. The use of acids in this manner would not only prove very refreshing to the patient, but would likewise tend to prevent the infection from spreading among those who attend him. Strong scented herbs, as rue, tansy, rosemary, wormwood, &c. may likewise be laid in different parts of the house, and smelled 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 drank by turns, according to the patient's inclination. They may be rendered cordial by the addition of wine, in such quantity as the patient's strength seems to require. When he is very low, he may drink negus, with only one half water, and sharpened with the juice of bitter orange or lemon. In some cases, a glass of wine may now and then be allowed.

The most proper wine is Rhenish; but if the body be open, red port or claret is to be preferred.

When the body is bound, a tea-spoonful of the cream of tartar may be put into a cup of the patient's drink, as there is occasion; or he may drink a decoction of tamarinds, which will both quench his thirst, and promote a discharge by stool.

If camomile tea will sit upon his stomach, it is a very proper drink in this disease. It may be sharpened, by adding to every cup of tea, ten or fifteen drops of the elixir of vitriol.

The food must be light, as panado, or groat gruel, to which a little wine may be added, if the patient be weak and low; and they ought all to be sharpened with the juice of orange, the jelly of currants, or the like. The patient ought likewise to eat freely of ripe fruits, as roasted apples, currant or gooseberry tarts, preserved cherries, or plums, &c.

Taking a little food or drink frequently, not only supports the spirits, but counteracts the putrid tendency of the humours; for which reason the patient ought frequently to be sipping small quantities of some of the acid liquors mentioned above, or any that may be more agreeable to his palate, or more readily obtained.

If he be delirious, his feet and hands ought to be frequently fomented with a strong infusion of camomile flowers. This, or an infusion of the bark, to such as can afford it, cannot fail to have a good effect. Fomentations of this kind not only relieve the head, by relaxing the vessels in the extremities, but as their contents are absorbed, and taken into the system, they may assist in preventing the putrescency of the humours.

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 clysters, or mild laxative medicines. Emollient clysters of water gruel or barley water, daily administered, tend greatly to dilute the acrimony and fœtor of the contents of the large intestines. They obviate that dangerous tension of the abdomen which occurs in this disorder. A determination to the skin should be kept up by taking an ounce and a half of the camphor mixture, and half an ounce of solution of acetated ammonia, every three or four hours.

Bleeding is seldom necessary in putrid fevers. If there be signs of an inflammation, it may sometimes be permitted at the first onset; but the repetition of it generally proves hurtful.

Blistering plasters are never to be used unless in the greatest extremities. If the petechiæ or spots should suddenly disappear, the patient's pulse sink remarkably, and a delirium, with other bad symptoms, come on, blistering may be permitted. In this

case the blistering plasters are to be applied to the head, and inside of the legs or thighs. But as they are sometimes apt to occasion a gangrene, we would rather recommend warm cataplasms, or poultices of mustard and vinegar, to be applied to the feet, having recourse to blisters only in the utmost extremities.

It is common in the beginning of this fever to give the emetic tartar in small doses, repeated every second or third hour, till it shall either vomit, purge, or throw the patient 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.*

[* Had the ingenious author lived a few years longer, he would, doubtless, have retracted the above assertion. Wine is very proper, but not the *only thing* to be relied on in the cure of typhus or putrid fevers. We have already spoken of the application of water to the surface of the body in the nervous fever: from which this differs only in malignancy.

We are indebted to the late Dr. Wright of Jamaica, and the late Dr. Currie of Liverpool, for a revival of the practice of applying water in fevers. From the last gentleman's report, we learn that the most advantageous time for using the cold affusion, is when the exacerbation is at its height, or immediately after it is begun, which is generally from six to nine in the evening; but he observes, it may be used with safety many times in the day, when the heat of the surface is steadily above what is natural, and when there is no general or profuse perspiration.

We had extensive opportunity of witnessing the good effects of this remedy many years ago, while attached to the staff of the British army, at the military hospitals of Chelsea, of Gosport, and of Plymouth: an ample practice of twenty years, subsequent to the above period, has established our opinion of its decided utility. Under the circumstances already stated, cold water may be dashed over the patient from a pail, or from a garden watering pot: at a more advanced period, we may employ ablution to the body by means of a sponge.—The effects produced by both modes are grateful and refreshing to the patient, and they usually bring about an abatement of fever, followed by more or less of a diaphoresis, and this again by a refreshing sleep.

It may be useful to add here, that when this fever, or scarlet fever, has run on unimpeded for several days, and where much debility is manifest, we would then recommend the washing the body with warm water, saturated with common salt, once or even twice in twenty-four hours, while the patient is sitting or standing in a convenient vessel.

The good effect of this plan we have frequently witnessed, but never with the same degree of pleasure as lately in our own family, after every other means had failed to produce the wished-for effect.—Ed.]

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 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 table-spoonfuls of the mixture taken every two hours, or oftener, if the stomach is able to bear it.

Those who cannot take the bark in substance, may infuse it in wine, as recommended in the preceding disease.

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 dram 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 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 the plentiful use of Peruvian bark and wine, sharpened with the muriatic acid, the effects of which are truly great in all febrile diseases of a malignant nature. The use of yeast is also extremely proper; the patient may take a dessert or a table spoonful of yeast in infusion of malt or mild porter, as often as it may be deemed expedient.

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.*

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, those in health ought to avoid all unnecessary communication with him; and the room should be fumigated.

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 camomile tea. This may be repeated in a day or two, if the apprehensions still continue, or any unfavourable symptoms appear.

The person ought likewise to take an infusion of the bark and camomile flowers for his ordinary drink; and before he goes to bed, he may drink an English pint of pretty strong negus, or a few glasses of generous wine. I have been frequently obliged to 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.

CHAP. XXIV.

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 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 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 whole body is sometimes covered with pustules; but they are generally more numerous where the sweat is most abundant, as on the breast, the back, &c. A gentle sweat, or moisture on the skin, greatly promotes the eruption; but when the skin is dry, the eruption is both more painful and dangerous.

Sometimes this is a primary disease; but it is much oftener only a symptom of some other malady, as the small-pox, measles, ardent, putrid, or nervous fever, &c. In all these cases it is generally the effect of too hot a regimen or medicines.*

The miliary fever chiefly attacks the idle and the phlegmatic, or persons of a relaxed habit. The young and the aged are more liable to it than those in the vigour and prime of life. It is likewise more incident to women than men, especially the delicate and the indolent, who, neglecting exercise, keep continually within doors, and live upon weak watery diet. Such females are extremely liable to be seized with this disease in childbed, and often lose their lives by it.

Causes.—The miliary fever is sometimes occasioned by violent passions or affections of the mind; as, excessive grief, anxiety, thoughtfulness, &c. It may likewise be occasioned by excessive watching, great evacuations, a weak watery diet, rainy seasons, eating too freely of cold, crude, unripe fruits, 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

[* This disease, if genuine is by no means contagious, and has rarely, if ever, been known to prevail epidemically. Many of our modern physicians seem to think that the disease is never a primary one, but arises in consequence of some other; particularly where much sweating has been excited, either by keeping the patient too warm, or by giving heating medicines.—Ed.]

take sufficient exercise without doors, this disease is very little known.

Symptoms.—When this is a primary disease, it makes its attack, like most other eruptive fevers, with a slight shivering, which is succeeded by heat, loss of strength, faintishness, sighing, a low quick pulse, difficulty of breathing, with great anxiety, and oppression of the breast. The patient is restless, and sometimes delirious; the tongue appears white, and the hands shake, with often a burning heat in the palms; and in childbed-women the milk generally goes away, and the other discharges stop.

The patient feels an itching or pricking pain under the skin, after which innumerable small pustules of a red or white colour begin to appear. Upon this the symptoms generally abate, the pulse becomes more full and soft, the skin grows moister, and the sweat, as the disease advances, begins to have a peculiar 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 on 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 that is the case, there is always danger; but when they go in all of a sudden, and do not appear again, the danger is very great.

In childbed-women, the pustules are commonly at first filled with clean water, afterwards they grow yellowish. Sometimes they are interspersed with pustules of a red colour. When these only appear, the disease goes by the name of a *rash*.

Regimen.—In all eruptive fevers, of whatever kind, the chief point is to prevent the sudden disappearing of the pustules, and to promote their maturation. For this purpose, the patient must be kept in such a temperature, as neither to push out the eruption too fast, nor to cause it to retreat prematurely. The diet and drink ought therefore to be in a moderate degree nourishing and cordial; but neither strong nor heating. The patient's chamber ought neither to be kept too hot nor cold; and he should not be too much covered with clothes. Above all, the mind is to be kept easy and cheerful. Nothing so certainly makes an eruption go in, as fear, or the apprehension of danger.

The food must be weak chicken-broth, with bread, panado, sago, or groat gruel, &c. to a gill of which may be added a spoonful or two of wine, as the patient's strength requires, with

a few grains of salt and a little sugar. Good apples, roasted or boiled, with other ripe fruits of an opening cooling nature, may be eaten.

The drink may be suited to the state of the patient's strength and spirits. If these be pretty high, the drink ought to be weak; as water gruel, balm tea, or black currant tea.

Sometimes the miliary fever approaches towards a putrid nature, in which case the patient's strength must be supported with generous cordials, joined with acids; and if the degree of putrescence be great, the Peruvian bark must be administered. If the head be much affected, the body must be kept open by emollient clysters.

MEDICINE.—If the food and drink be properly regulated, there will be little occasion for medicine in this disease. Should the eruption, however, not rise, or the spirits flag, it will not only be necessary to support the patient with cordials, but likewise to apply blistering plasters. The most proper cordial in this case is good wine, which may either be taken in the patient's food or drink; and if there be signs of putrescence, the bark and acids may be mixed with wine, as directed in the putrid fever.

Some recommend blistering through the whole course of this disease; and where nature flags, and the eruption comes and goes, it may be necessary to keep up a stimulus, by a continual succession of small blistering plasters; but we would not recommend above one at a time. If, however, the pulse should sink remarkably, the pustules strike in, and the head be affected, it will be necessary to apply several blistering plasters to the most sensible parts, as the inside of the legs, thighs, &c.

Bleeding is seldom necessary in this disease, and sometimes it does much hurt, as it weakens the patient and depresses his spirits. It is therefore never to be attempted unless by the advice of a physician. We mention this, because it has been customary to treat this disease in 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 evacuations very ill. And, indeed, the disease seems often to be more of a putrid than of an inflammatory nature.

Though this fever is often occasioned in 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 symptoms. 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 that account more dangerous.

CHAP. XXV.

OF THE REMITTENT FEVER.

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

Causes.—Remittent fevers prevail in low marshy countries abounding with wood and stagnating water; but they prove

most fatal in places where great heat and moisture are combined, as in some parts of Africa, the province of Bengal in the East Indies, &c. where remittent 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 stagnating 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 alternate fits of heat and cold. Sometimes the patient is affected with a delirium at the very first attack. There is a pain, and sometimes a swelling, about the region of the stomach, the tongue is white, the eyes and skin frequently appear yellow, and the patient is often afflicted with bilious vomitings. The pulse is sometimes a little hard, but seldom full, and the blood, when let, rarely shews 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, bed-clothes, &c. should be frequently changed, and all his excrements immediately removed. Though these things have been recommended before, we think it necessary to repeat them here, as they are

of more importance to the sick than practitioners are apt to imagine.*

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

In the remittent fevers of warm climates, as well as in this country in the hotter seasons of the year,—and also in the scarlet fever, the best effects are to be derived from cold affusion, or throwing cold water over the patient: but it is to be understood, that the height of the paroxysm is the proper time for the application of the remedy. The sensations of heat are then strong, the headache is violent, and the delirium frequently runs high. By employing the remedy at an early period, we may be able either to arrest the malady speedily, or bring about an early solution of the disease: but in every instance (unless the patient is labouring under great debility) it will be necessary to premise proper evacuations, and attend to the instructions already laid down under the head "Acute Fever," or "Nervous Fever," as the disease now under consideration may partake of the nature of either of these.

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 sedom fail to perfect the cure. It is needless here to repeat the me-

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* The ingenious Dr. Lind, of Windsor, in his inaugural dissertation concerning the putrid remittent fever of Bengal, has the following observation: "The patient's shirt, bed-clothes, and bedding, ought frequently to be changed, and exposed to the air, and all his excrements immediately removed; the bed-chamber should be well ventilated, and frequently sprinkled with vinegar; in short, every attention should be paid to the patient. I can affirm, that a physician who puts these in practice will much oftener succeed, than one who is even more skilful, but has not opportunity of using these means."

thods 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 intermittent 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 exposed. Those brave, but thoughtless men, should, therefore, be obliged to pay more attention to the simple preservatives from fevers above pointed out. I have too high an opinion of the talents of many eminent physicians and surgeons now in the army, to think any farther remarks on this subject necessary. I am persuaded that a hint will be sufficient to call forth the fullest exercise of their skill, their humanity, and their zeal also for the honour and security of their country, in saving the lives, and promoting the health and vigour, of its gallant defenders.

CHAP. XXVI.

OF THE SMALL-POX.

THIS disease, which originally came from Arabia, is now become so general, that very few escape it at one time of life or another. It is a most contagious malady; and has for many years proved the scourge of Europe.*

[* Mr. Moore, in his history of the small-pox, collected from the researches of eminent writers, states, that this disease, as also the measles, had prevailed in China and Hindoostan from remote antiquity, yet had not extended to the more western nations until the middle of the sixth century. About this period, these maladies reached the southern coasts of Arabia, by vessels trading with India, and broke out near Mecca, during the war of the elephant (as it has been termed) in the year 569, immediately before the birth of Mahomet.—ED.]

The small-pox generally appear towards the spring. They are very frequent in summer, less so in autumn, and least of all in winter. Children are most liable to this disease; and those whose food is unwholesome, who want proper exercise, and abound with gross humours, run the greatest hazard from it.

The disease is distinguished into the *distinct* and *confluent* kind: the latter of which is always attended with danger. There are likewise other distinctions of the small-pox; as the crystalline, the bloody, &c.

Causes.—The small-pox is commonly caught by infection. Since the disease was first brought into Europe, the infection has never been wholly extinguished, nor have any proper methods, as far as I know, been taken for that purpose; so that now it has become in a manner constitutional. Children who have over-heated themselves by running, wrestling, &c. or adults after a debauch, are most apt to be seized with the small-pox.

Symptoms.—This disease is so generally known, that a minute description of it is unnecessary. Children commonly look a little dull, seem listless and drowsy for a few days before the more violent symptoms of the small-pox appear. They are likewise more inclined to drink than usual, have little appetite for solid food, complain of weariness, and, upon taking exercise, are apt to sweat. These symptoms are succeeded by slight fits of cold and heat in turns, which, as the time of the eruption approaches, become more violent, and are accompanied with pains of the head and loins, vomiting, &c. The pulse is quick, with a great heat of the skin, and restlessness. When the patient drops asleep, he wakes in a kind of horror, with a sudden start, which is a very common symptom of the approaching eruption; as are also convulsion fits in very young children.

About the third or fourth day from the time of sickening, the small-pox generally begin to appear; sometimes, indeed, they appear sooner, but that is no favourable symptom. At first they very nearly resemble flea-bites, and are soonest discovered on the face, arms, and breast.

The most favourable symptoms are a slow eruption, and an abatement of the fever as soon as the pustules appear. In a mild distinct kind of small-pox the pustules seldom appear before the fourth day from the time of sickening, and they generally keep coming out gradually for several days after. Pustules which are distinct, with a florid red basis, and which fill with thick purulent matter, first of a whitish, and afterwards of a yellowish colour, are the best.

A livid brown colour of the pustules is an unfavourable symptom; as also when they are small and flat, with black

specks in the middle. Pustules which contain a thin watery ichor are very bad. A great number of pox on the face is always attended with danger. It is likewise a bad sign when they run into one another.

It is a most unfavourable symptom when petechiæ or purple, brown, or black spots are interspersed among the pustules. These are signs of a putrid dissolution of the blood, and shew the danger to be very great. Bloody stools or urine, with a swelled belly, are bad symptoms; as is also a continual strangury. Pale urine and a violent throbbing of the arteries of the neck are signs of an approaching delirium, or of convulsion fits. When the face does not swell, or falls before the pox come to maturity, it is very unfavourable. If the face begins to fall about the eleventh or twelfth day, and at the same time the hands and feet begin to swell, the patient generally does well; but when these do not succeed each other, there is reason to apprehend danger. When the tongue is covered with a brown crust, it is an unfavourable symptom. Cold shivering fits coming on at the height of the disease, are likewise unfavourable. Grinding of the teeth, when it proceeds from an affection of the nervous system, is a bad sign; but sometimes it is occasioned by worms, or a disordered stomach.

Regimen.—When the first symptoms of the small-pox appear, people are ready to be alarmed, and often fly to the use of medicine, to the great danger of the patient's life. I have known children, to appease the anxiety of their parents, bled, blistered, and purged, during the fever which preceded the eruption of the small-pox, to such a degree, that nature was not only disturbed in her operation, but rendered unable to support the pustules after they were out; so that the patient, exhausted by mere evacuations, sunk under the disease.

When convulsions appear, they give a dreadful alarm. Immediately some nostrum is applied, as if this were a primary disease; whereas it is only a symptom, and far from being an unfavourable one, of the approaching eruption. As the fits generally go off before the actual appearance of the small-pox, it is attributed to the medicine, which by this means acquires a reputation without any merit.*

All that is, generally speaking, necessary during the eruptive fever, is to keep the patient cool and easy, allowing him to drink freely of some weak diluting liquors; as balm tea, barley

* Convulsion fits are no doubt very alarming, but their effects are often salutary. They seem to be one of the means made use of by nature for breaking the force of a fever. I have always observed a fever abated, and sometimes quite removed, after one or more convulsion fits. This readily accounts for convulsions being a favourable symptom in the fever which precedes the eruption of the small-pox, as every thing that mitigates this fever lessens the eruption.

water, clear whey, gruels, &c. He should not be confined to bed, but should sit up as much as he is able, and should have his feet and legs frequently bathed in lukewarm water. His food ought to be very light; and he should be as little disturbed with company as possible.

Much mischief is done at this period by confining the patient too soon to his bed, and plying him with warm cordials or sudorific medicines. Every thing that heats and inflames the blood increases the fever, and pushes out the pustules prematurely. This has numberless ill effects. It not only increases the number of pustules, but likewise tends to make them run into one another; and when they have been pushed out with too great violence, they generally fall in before they come to maturity.

The good women, as soon as they see the small-pox begin to appear, commonly ply their tender charge with cordials, saffron, and marigold teas, wine, punch, and even brandy itself. All these are given with a view, as they term it, to throw out the eruption from the heart. This, like most other popular mistakes, is the abuse of a very just observation, *that when there is a moisture on the skin, the pox rise better, and the patient is easier, than when it continues dry and parched.* But that is no reason for forcing the patient into a sweat. Sweating never relieves unless where it comes spontaneously, or is the effect of drinking weak diluting liquors. The patient ought to be very lightly covered in bed, and should be frequently taken up to keep him cool.

Children are often so peevish, that they will not lie abed without a nurse constantly by them. Indulging them in this, we have reason to believe, has many bad effects, both upon the nurse and the child. Even the natural heat of the nurse cannot fail to augment the fever of the child; but if she too proves feverish, which is often the case, the danger must be increased.*

Laying several children who have the small-pox in the same bed, has many ill consequences. They ought, if possible, never to be in the same chamber, as the perspiration, the heat, smell, &c. all tend to augment the fever, and to heighten the disease. It is common, among the poor, to see two or three children lying in the same bed, with such a load of pustules that even their skins stick together. One can hardly view a

* I have known a nurse, who had the small-pox before, so infected by lying constantly abed with a child in a bad kind of small-pox, that she had not only a great number of pustules, which broke out all over her body, but afterwards a malignant fever, which terminated in a number of imposthumes or boils, and from which she narrowly escaped with her life. We mention this, to put others upon their guard against the danger of this virulent infection.

scene of this kind without being sickened by the sight; but how must the effluvia affect the poor patients, many of whom perish by this usage.*

A very dirty custom prevails among the lower class of people, of allowing children in the small-pox to keep on the same linen during the whole period of that loathsome disease. This is done lest they should catch cold; but it has many ill consequences. The linen becomes hard by the moisture which it absorbs, and frets the tender skin. It likewise occasions a bad smell, which is very pernicious both to the patient and those about him; besides, the filth and sordes which adhere to the linen being resorbed, or taken up again into the body, greatly augment the disease.

A patient should not be suffered to be dirty in an internal disease, far less in the small-pox. Cutaneous disorders are often occasioned by nastiness alone, and are always increased by it. Were the patient's linen to be changed every day, it would greatly refresh him. Care indeed is to be taken that the linen be thoroughly dry. It ought likewise to be put on when the patient is most cool.

So strong is the vulgar prejudice in this country, notwithstanding all that has been said against the hot regimen in the small-pox, that numbers still fall a sacrifice to that error. I have seen poor women travelling in the depth of winter, and carrying their children along with them in the small-pox, and have frequently observed others begging by the way side, with infants in their arms covered with the pustules; yet I could never learn that one of these children died by this sort of treatment. This is certainly a sufficient proof of the safety, at least, of exposing patients in the small-pox to the open air. There can be no reason, however, for exposing them to public view. It is now very common in the environs of great towns to meet patients in the small-pox on the public walks. This practice, however well it may suit the purposes of boasting inoculators, is dangerous to the citizens, and contrary to the laws of humanity and sound policy.

The food in this disease ought to be very light, and of a cooling nature, as panado, or bread boiled with equal quanti-

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* This observation is likewise applicable to hospitals, workhouses, &c. where numbers of children happen to have the small-pox at the same time. I have seen above forty children cooped up in one apartment, all the while they had this disease, without any of them being admitted to breathe the fresh air. No one can be at a loss to see the impropriety of such conduct. It ought to be a rule, not only in hospitals for the small-pox, but likewise for other diseases, that no patient should be within sight or hearing of another. This is a matter to which too little regard is paid. In most hospitals and infirmaries, the sick, the dying, and the dead, are often to be seen in the same apartment.

ties of milk and water, good apples roasted or boiled with milk, and sweetened with a little sugar or such like.

The drink may be equal parts of milk and water, clear sweet whey, barley-water, or thin gruel, &c. After the pox are full, butter-milk, being of an opening and cleansing nature, is a very proper drink.

MEDICINE.—This disease is generally divided into four different periods, viz. the fever which precedes the eruption, the eruption itself, the suppuration or maturation of the pustules, and the secondary fever.

It has already been observed, that little more is necessary during the primary fever than to keep the patient cool and quiet, allowing him to drink diluting liquors, and bathing his feet frequently in warm water. Though this be generally the safest course that can be taken with infants, yet adults of a strong constitution and plethoric habit sometimes require bleeding. When a full pulse, a dry skin, and other symptoms of inflammation, render this operation necessary, it ought to be performed; but unless these symptoms are urgent, it is safer to let it alone; if the body is bound, emollient clysters may be administered.*

If there is a great nausea or inclination to vomit, weak camomile tea or lukewarm water may be drank, in order to cleanse the stomach. At the beginning of a fever, nature generally attempts a discharge, either upwards or downwards, which, if promoted by gentle means, would tend greatly to abate the violence of the disease.

Though every method is to be taken during the primary fever, by a cool regimen, &c. to prevent too great an eruption; yet, after the pustules have made their appearance, our business is to promote the suppuration, by diluting drink, light food, and, if nature seems to flag, by generous cordials. When a low creeping pulse, faintishness, and great loss of strength, render cordials necessary, we would recommend good wine, which may be made into negus with an equal quantity of water, and sharpened with the juice of orange, the jelly of currants, or the like. Wine whey, sharpened as above, is

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[* In the early stage of small-pox, and during the eruptive fever, when the symptoms run high, we may, in addition to exposing the patient freely to cool air, recommend washing the body partially or generally with cold water. As the quantity, as well perhaps as the quality of the pustules, depends greatly on the violence and duration of the eruptive fever, and as by mitigating the one we render the other more favourable, it would seem really advisable, as soon as a person is seized with variolous fever, wherein the febrile symptoms are any way high, to have cold water thrown over the body every four or six hours, so as to keep the fever down. The safety and utility of this remedy is recorded in the thirteenth number of the Edinburgh Medical Journal, and the same is confirmed by our own experience.—ED.]

likewise a proper drink in this case; great care, however, must be taken not to overheat the patient by any of these things. This, instead of promoting, would retard the eruption.

The rising of the small-pox is often prevented by the violence of the fever; in this case the cool regimen is strictly to be observed. The patient's chamber must not only be kept cool, but he ought likewise frequently to be taken out of bed, and to be lightly covered with clothes while in it.

Excessive restlessness often prevents the rising and filling of the small-pox: when this happens, gentle opiates are necessary. These, however, ought always to be administered with a sparing hand. To an infant, a tea-spoonful of the syrup of poppies may be given every five or six hours, till it has the desired effect. An adult will require a table-spoonful in order to answer the same purpose.

If the patient be troubled with a strangury, or suppression of urine, which often happens in the small-pox, he should be frequently taken out of bed, and, if he be able, should walk across the room with his feet bare. When he cannot do this, he may be frequently set on his knees in bed, and should endeavour to pass his urine as often as he can. When these do not succeed, a tea-spoonful of the sweet spirits of nitre may be occasionally mixed with his drink. Nothing more certainly relieves the patient, or is more beneficial in the small-pox, than a plentiful discharge of urine.

If the mouth be foul, and the tongue dry and chapped, it ought frequently to be washed, and the throat gargled with water and honey, sharpened with a little vinegar or currant jelly.

During the rising of the small-pox, it frequently happens that the patient is eight or ten days without a stool. This not only tends to heat and inflame the blood, but the feces, by lodging so long in the body, become acrid, and even putrid; from whence bad consequences must ensue. It will therefore be proper, when the body is bound, to throw in an emollient clyster every second or third day, through the whole course of the disease, or to give a dose of castor oil. This will greatly cool and relieve the patient.

When petechiæ, purple, black, or livid spots, appear among the small-pox, the Peruvian bark must immediately be administered in as large doses as the patient's stomach can bear. For a child, two drachms of the bark in powder may be mixed in three ounces of common water, one ounce of simple cinnamon water, and two ounces of the syrup of orange or lemon. This may be sharpened with the spirits of vitriol, and a table-spoonful of it given every hour. If it be given to an adult in the same form, he may take at least three or four spoonfuls every hour. This medicine ought not to be trifled with, but

must be administered as frequently as the stomach can bear it; in which case it will often produce very happy effects. I have frequently seen the petechiæ disappear, and the small-pox, which had a very threatening aspect, rise and fill with matter, by the use of the bark and acids.

The patient's drink ought likewise in this case to be generous, as wine or strong negus acidulated with raspberry, vinegar, the juice of lemon, jelly of currants, or such like. His food must consist of apples, roasted or boiled, preserved cherries, plums, and other fruits of an acid nature.

The bark and acids are not only necessary when the petechiæ or putrid symptoms appear, but likewise in the lymphatic or crystalline small-pox, where the matter is thin, and not duly prepared. The Peruvian bark seems to possess a singular power of assisting nature in preparing laudable pus, or what is called good matter; consequently it must be beneficial both in this and other diseases, where the crisis depends on a suppuration. I have often observed, where the small-pox were flat, and the matter contained in them quite clear and transparent, and where at first they had the appearance of running into one another, that the Peruvian bark, acidulated as above, changed the colour and consistence of the matter, and produced the most happy effects.

When the eruption subsides suddenly, or, as the good women term it, when the small-pox *strike in*, before they have arrived at maturity, the danger is very great. In this case blistering plasters must be immediately applied to the wrists and ancles, and the patient's spirits supported with cordials.

Sometimes bleeding has a surprising effect in raising the pustules after they have subsided; but it requires skill to know when this is proper, or to what length the patient can bear it. Sharp cataplasms, however, may be applied to the feet and hands, as they tend to promote the swelling of these parts, and by that means to draw the humours towards the extremities.

The most dangerous period of this disease is what we call the secondary fever. This generally comes on when the small-pox begin to blacken, or turn on the face; and most of those who die of the small-pox are carried off by this fever.*

[* In general, the fate of the patient is determinable from the eleventh to the seventeenth day. The skin is covered with a dry crust, which afterwards separates, and leaves frequently a mark behind. The crisis of the secondary fever is either accompanied with a diarrhœa, or sediment in the urine.—If the pain in the stomach or side be severe, it generally precedes the confluent small-pox. The more confluent the disease, especially on the face, the more danger there is, particularly if the fever remains during and after the eruption is completed. Much redness and inflammation about the basis of the pustule, is more favourable than paleness and flatness.—Ed.]

Nature generally attempts, at the turn of the small-pox, to relieve the patient by loose stools. Her endeavours this way are by no means to be counteracted, but promoted, and the patient at the same time supported by food and drink of a nourishing and cordial nature.

If, at the approach of the secondary fever, the pulse be very quick, hard, and strong, the heat intense, and the breathing laborious, with other symptoms of an inflammation of the breast, the patient must immediately be bled. The quantity of blood to be let, must be regulated by the patient's strength, age, and the urgency of the symptoms.

But in the secondary fever, if the patient be faintish, the pustules become suddenly pale, and if there be great coldness of the extremities, blistering plasters must be applied, and the patient must be supported with generous cordials. As the secondary fever is in a great measure, if not wholly, owing to the absorption of the matter, it would seem highly consonant to reason, that the pustules, as soon as they come to maturity, should be opened. This is every day practised in other phlegmons which tend to suppuration; and there seems to be no cause why it should be less proper here. On the contrary, we have reason to believe that by this means the secondary fever might always be lessened, and often wholly prevented. The pustules should be opened when they begin to turn a yellow colour. Very little art is necessary for this operation. They may either be opened with a lancet or a needle, and the matter absorbed by a little dry lint. As the pustules are generally first ripe on the face, it will be proper to begin with opening these, and the others in course as they become ripe. The pustules generally fill again, a second, or even a third time; for which cause the operation must be repeated, or rather continued, as long as there is any considerable appearance of matter in the pustules.

We have reason to believe that this operation, rational as it is, has been neglected from a piece of mistaken tenderness in parents. They believe that it must give great pain to the poor child; and, therefore, would rather see it die than have it thus tortured. This notion, however, is entirely without foundation. I have frequently opened the pustules when the patient did not see me, without his being in the least sensible of it; but suppose it were attended with a little pain, that is nothing in comparison to the advantages which may arise from it.

Opening the pustules not only prevents the resorption of the matter into the blood, but likewise takes off the tension of the skin, and by that means greatly relieves the patient. It likewise tends to prevent the pitting, which is a matter of no small importance. Acrid matter, by lodging long in the

pustules, cannot fail to corrode the tender skin; by which many a handsome face becomes so deformed as hardly to bear a resemblance to the human figure.*

It is generally necessary, after the small-pox are gone off, to purge the patient. If, however, the body has been open through the whole course of the disease, or if butter-milk and other things of an opening nature have been drunk freely after the height of the small-pox, purging becomes less necessary; but it ought never wholly to be neglected.

For very young children, an infusion of senna and prunes, with a little rhubarb, may be sweetened with coarse sugar, and given in small quantities till it operates. Those who are farther advanced must take medicines of a sharper nature. For example, a child of five or six years of age may take eight or ten grains of fine rhubarb in powder over night, and the same quantity of jalap in powder next morning. This may be wrought off with fresh broth or water gruel, and may be repeated three or four times, five or six days intervening between each dose. For children further advanced, and adults, the dose must be increased in proportion to the age and constitution.†

When imposthumes or boils happen after the small-pox, which is not seldom the case, they must be brought to suppuration as soon as possible, by means of ripening poultices; and when they have been opened, or have broke of their own accord, the patient must be purged. The Peruvian bark and a milk diet will likewise be useful in this case.

When a cough, a difficulty of breathing, or other symptoms of a consumption, succeed to the small-pox, the patient must be sent to a place where the air is good, and put upon a course of asses' milk, with such exercise as he can bear. For further directions in this case, see the article *Consumptions*.

Of Inoculation.

Though no disease, after it is formed, baffles the power of medicine more effectually than the small-pox, yet more may be done beforehand to render this disease favourable than any one we know, as almost all the danger from it may be prevented by inoculation. This salutary invention has been

* Though this operation can never do harm, yet it is only necessary when the patient has a great load of small-pox, or when the matter which they contain is of so thin and acrid a nature, that there is reason to apprehend bad consequences from its being too quickly resorbed, or taken up again into the mass of circulating humours.

† I have of late been accustomed, after the small-pox, to give one, two, three, four, or five grains of calomel, according to the age of the patient, over night, and to work it off next morning with a suitable dose of jalap. Or the jalap and calomel may be mixed together, and given in the morning.

known in Europe above half a century; but, like most other useful discoveries, it has till of late made but slow progress. It must, however, be acknowledged, to the honour of this country, that inoculation has met with a more favourable reception here, than among any of our neighbours. It is still, however, far from being general, which we have reason to fear will be the case, as long as the practice continues in the hands of the faculty.*

No discovery can be of general utility, while the practice of it is kept in the hands of a few. Had the inoculation of the small-pox been introduced as a fashion, and not as a medical discovery, or had it been practised by the same kind of operators here, as it is in those countries from whence we learned it, it had long ago been universal. Fears, jealousies, prejudices, and opposite interests, are, and ever will be, the most effectual obstacles to the progress of any salutary discovery. Hence it is that the practice of inoculation never became in any measure general, even in England, till taken up by men not bred to physic. These have not only rendered the practice more extensive, but likewise more safe, and, by acting under less restraint than the regular practitioners, have taught them that the patient's greatest danger arose, not from the want of care, but from the excess of it.

They know very little of the matter, who impute the success of modern inoculators to any superior skill, either in preparing the patient or communicating the disease. Some of them, indeed, from a sordid desire of engrossing the whole practice to themselves, pretend to have extraordinary secrets or nostrums

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[* The practice of inoculating for the small-pox is generally supposed to have been introduced into Great Britain from Turkey, by Lady Mary Wortley Montague, about the year 1721, whose son had been inoculated at Constantinople during her residence there, and whose infant daughter was the first that underwent the operation in this country. Several letters, however, of Dr. Williams, Mr. Owen, and Mr. Wright, which may be seen in the Philosophical Transactions for the year 1722, assure us, that inoculation was *well known at that time* IN WALES, *and had been of long standing*,

The violence of the small-pox is greatly diminished by *inoculation*. The advantages of this practice are chiefly the following:

1. The choice of the subject, the time of life, and season of the year.
2. The preparation by regimen and medicine.
3. The avoiding the usual occasional causes which aggravate the disease.
4. By the choice of the matter, and manner of applying it, and probably from its being then in the early period of infection.
5. The introduction of a very small quantity of the matter.
6. The occasional use of purging after the inoculation.
7. Free exposure to cool air.

The practice of all these measures has tended greatly to moderate the disease: but the duty of all is Vaccination, as we shall endeavour to prove in the ensuing chapter.—ED.]

for preparing persons for inoculation, which never fail of success. But this is only a pretence, calculated to blind the ignorant and inattentive. Common sense and prudence alone are sufficient, both in the choice of the subject and management of the operation. Whoever is possessed of these may perform this office for his children whenever he finds it convenient, provided they be in a good state of health.

This sentiment is not the result of theory, but of observation. Though few physicians have had more opportunities of trying inoculation in all its different forms, so little appears to me to depend on these, generally reckoned important circumstances, of preparing the body, communicating the infection by this or the other method, &c. that for several years past I have persuaded the parents or nurses to perform the whole themselves, and have found that method followed with equal success, while it is free from many inconveniences that attend the other.*

The small-pox may be communicated in a great variety of ways with nearly the same degree of safety and success. In Turkey, from whence we learned the practice, the women communicate the disease to children, by opening a bit of the skin with a needle, and putting into the wound a little matter taken from a ripe pustule. On the coast of Barbary, they pass a thread wet with the matter through the skin between the thumb and forefinger; and in some of the states of Barbary, inoculation is performed by rubbing in the variolous matter between the thumb and forefinger, or on other parts of the body. The practice of communicating the small-pox by rubbing the variolous matter upon the skin, has been long known in many parts of Asia and Europe, as well as in Barbary, and has generally gone by the name of *buying the small-pox*.

The present method of inoculating in Britain is to make two

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* A critical situation, too often to be met with, first put me upon trying this method. A gentleman who had lost all his children, except one son, by the natural small-pox, was determined to have him inoculated. He told me his intention, and desired I would persuade the mother and grandmother, &c. of its propriety. But that was impossible. They were not to be persuaded, and either could not get the better of their fears, or were determined against conviction. It was always a point with me not to perform the operation without the consent of the parties concerned. I therefore advised the father, after giving his son a dose or two of rhubarb, to go to a patient who had the small-pox of a good kind, to open two or three of the pustules, taking up the matter with a little cotton, and, as soon as he came home, to take his son apart, and give his arm a slight scratch with a pin, afterwards to rub the place well with the cotton, and take no farther notice of it. All this he punctually performed: and at the usual period the small-pox made their appearance, which were of an exceeding good kind, and so mild as not to confine the boy an hour to his bed. None of the other relations knew but the disease had come in the natural way, till the boy was well.

or three slanting incisions in the arm, so superficial as not to pierce quite through the skin, with a lancet wet with fresh matter taken from a ripe pustule; afterwards the wounds are closed up, and left without any dressing. Some make use of a lancet covered with the dry matter: but this is less certain, and ought never to be used unless where fresh matter cannot be obtained: when this is the case, the matter ought to be moistened by holding the lancet for some time in the steam of warm water.

We do not find that inoculation is at all considered as a medical operation in those countries from whence we learned it. In Turkey it is performed by the women, and in the East Indies by the Brachmins or priests. In this country the custom is still in its infancy; we make no doubt, however, but it will soon become so familiar, that parents will think no more of inoculating their children, than at present they do of giving them a purge.

No set of men have it so much in their power to render the *practice of inoculation general, as the clergy*, the greatest opposition to it still arising from some scruples of conscience, which they alone can remove. I would recommend it to them not only to endeavour to remove the religious objections which weak minds may have to this salutary practice, but to enjoin it as a duty, and to point out the danger of neglecting to make use of a mean which Providence has put in our power, for saving the lives of our offspring. Surely such parents as wilfully neglect the means of saving their children's lives, are as guilty as those who put them to death. I wish this matter were duly weighed. No one is more ready to make allowance for human weakness and religious prejudices; yet I cannot help recommending it, in the warmest manner, to parents, to consider how great an injury they do their children, by neglecting to give them this disease in the early period of life.

The numerous advantages arising from the inoculation of the small-pox have been pretty fully pointed out by the learned Dr. M'Kenzie, in his History of Health.* To those mentioned

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* "Many and great," says this humane author, "are the dangers attending the natural infection, from all which, the inoculation is quite secure. The natural infection may invade weak or distempered bodies, by no means disposed for its kindly reception. It may attack them at a season of the year either violently hot or intensely cold. It may be communicated from a sort of small-pox impregnated with the utmost virulence. It may lay hold upon people unexpectedly, when a dangerous sort is imprudently imported into a maritime place. It may surprise us soon after excesses committed in luxury, intemperance, or lewdness. It may likewise seize on the innocent after indispensable watchings, hard labour, or necessary journeys. And is it a trivial advantage, that all these unhappy circumstances can be prevented by inoculation? By inoculation numbers are saved from deformity as well as from death.

by the Doctor we shall only add, that such as have not had the small-pox in the early period of life, are not only rendered unhappy, but likewise in a great measure unfit for sustaining many of the most useful and important offices. Few people would choose even to hire a servant who had not had the small-pox, far less to purchase a slave, who had the chance of dying of this disease. How could a physician or a surgeon, who had never had the small-pox himself, attend others under that malady? How deplorable is the situation of females, who arrive at mature age without having had the small-pox! A woman with child seldom survives this disease: and if an infant happen to be seized with the small-pox upon the mother's breast, who has not had the disease herself, the scene must be distressing! if she continue to suckle the child, it is at the peril of her own life; and if she wean it, in all probability it will perish. How often is the affectionate mother forced to leave her house, and abandon her children, at the very time when her care is most necessary? Yet, should parental affection get the better of her fears, the consequences would often prove fatal. I have known the tender mother and her sucking infant laid in the same grave, both untimely victims to this dreadful malady. But these are scenes too shocking even to mention. Let parents who run away with their children to avoid the small-pox, or who refuse to inoculate them in infancy, consider to what deplorable situations they may be reduced by this mistaken tenderness!

As the small-pox is now become an epidemical disease in

In the natural small-pox, how often are the finest features, and the most beautiful complexions, miserably disfigured? Whereas inoculation rarely leaves any ugly marks or scars, even where the number of pustules on the face has been very considerable, and the symptoms by no means favourable. And many other grievous complaints that are frequently subsequent to the natural sort, seldom follow the artificial. Does not inoculation also prevent those inexpressible terrors that perpetually harass persons who never had this disease, insomuch that when the small-pox is epidemical, entire villages are depopulated, markets ruined, and the face of distress spread over the whole country? From this terror it arises, that justice is frequently postponed or discouraged, at sessions or assises where the small-pox rages. Witnesses and juries dare not appear; and by reason of the necessary absence of some gentlemen, our honourable and useful judges are not attended with that reverence and splendour due to their office and merit. Does not inoculation, in like manner, prevent our brave sailors from being seized with this distemper on shipboard, where they must quickly spread the infection among such of the crew who never had it before, and where they have scarce any chance to escape, being half stifled with the closeness of their cabins, and but very indifferently nursed? Lastly, with regard to the soldiery, the miseries attending these poor creatures, when attacked by the small-pox on a march, are inconceivable, without attendance, without lodgings, without any accommodation; so that one of three commonly perishes."

most parts of the known world, no other choice remains but to render the malady as mild as possible. This is the only manner of extirpation now left in our power; and though it may seem paradoxical, the artificial method of communicating the disease, could it be rendered universal, would amount to nearly the same thing as rooting it out. It is a matter of small consequence, whether a disease be entirely extirpated, or rendered so mild as neither to destroy life nor hurt the constitution; but that this may bedone by inoculation, does not now admit of a doubt. The numbers who die under inoculation hardly deserve to be named. In the natural way, one in four or five generally dies; but by inoculation not one in a thousand. Nay, some can boast of having inoculated ten thousand without the loss of a single patient.*

I have often wished to see some plan established for rendering this salutary practice universal; but am afraid I shall never be so happy. The difficulties indeed are many; yet the thing is by no means impracticable. The aim is great: no less than saving the lives of one-fourth part of mankind. What ought not to be attempted in order to accomplish so desirable an end?

The first step towards rendering the practice universal, must be to remove the religious prejudices against it. This, as already observed, can only be done by the clergy. They must not only recommend it as a duty to others, but likewise practise it on their own children. Example will ever have more influence than precept.

The next thing requisite, is to put it in the power of all. For this purpose, we would recommend it to the Faculty to inoculate the children of the poor *gratis*. It is hard that so useful a part of mankind should, by their poverty, be excluded from such a benefit.

Should this fail, it is surely in the power of any state to render the practice general, at least as far as their dominion extends. We do not mean that it ought to be enforced by a law. The best way to promote it would be to employ a sufficient number of operators, at the public expense, to inoculate the children of the poor. This would only be necessary till the practice became general; afterwards custom, the strength of all laws, would oblige every individual to inoculate his children, to prevent reflections.

It may be objected to this scheme, that the poor would refuse to employ the inoculators: this difficulty is easily removed.

[* The mode of treating the small-pox being the same, whether it arises naturally, or from inoculation, a reference must be had to the plan which is laid down in the preceding pages; and as purging is not less necessary after the small-pox by inoculation, than by the natural way, it ought by no means to be neglected.—Ed.]

A small premium to enable mothers to attend their children while under the disease, would be a sufficient inducement; besides, the success attending the operation would soon banish all objections to it. Even considerations of profit would induce the poor to embrace this plan. They often bring up their children to the age of ten or twelve, and when they come to be useful, they are snatched away by this malady, to the great loss of their parents, and detriment of the public.

The British legislature has of late years shewn great attention to the preservation of infant lives, by supporting the Foundling hospital, &c. But we will venture to say, if one tenth part of the sums laid out in supporting that institution, had been bestowed towards promoting the practice of inoculation of the small-pox among the poor, that not only more useful lives had been saved, but the practice, ere now, rendered quite universal in this island. It is not to be imagined what effect example and a little money will have upon the poor; yet, if left to themselves, they would go on for ever in the old way, without thinking of any improvement. We only mean this as a hint to the humane and public spirited. Should such a scheme be approved, a proper plan might easily be laid down for the execution of it.

But as public plans are very difficult to bring about, and often, by the selfish views and misconduct of those intrusted with the execution of them, fail of answering the noble purposes for which they were designed; we shall, therefore, point out some other method by which the benefits of inoculation may be extended to the poor.

There is no doubt but inoculators will daily become more numerous. We would, therefore, have every parish in Britain to allow one of them a small annual salary for inoculating all the children of the parish at a proper age. This might be done at a very trifling expense, and it would enable every one to enjoy the benefit of this salutary invention.

Two things chiefly operate to prevent the progress of inoculation. The one is a wish to put the evil day as far off as possible. This is a principle in our nature; and as inoculation seems rather to be anticipating a future evil, it is no wonder mankind are so averse to it. But this objection is sufficiently answered by the success. Who in his senses would not prefer a lesser evil to-day to a greater to-morrow, provided they were equally certain?

The other obstacle is the fear of reflections. This has a very great weight with the bulk of mankind. Should the child die, they think the world would blame them. This they cannot bear. Here lies the difficulty; and, till that be removed, inoculation will make but small progress. Nothing however can remove it but custom. Make the practice fashionable,

and all objections will soon vanish. It is fashion alone that has led the multitude since the beginning of the world, and will lead them to the end. We must, therefore, call upon the more enlightened part of mankind to set a pattern to the rest. Their example, though it may for some time meet with opposition, will at length prevail.

I am aware of an objection to this practice from the expense with which it may be attended: this is easily obviated. We do not mean that every parish ought to employ a Sutton or a Dimsdale as inoculators. These have by their success already recommended themselves to crowned heads, and are beyond the vulgar reach; but have not others an equal chance to succeed? They certainly have. Let them make the same trial, and the difficulties will soon vanish. There is not a parish, and hardly a village in Britain, destitute of some person who can bleed. But this is a far more difficult operation, and requires both more skill and dexterity than inoculation.

The persons to whom we would chiefly recommend the performance of this operation are the clergy. Most of them know something of medicine. Almost all of them bleed, and can order a purge, which are all the qualifications necessary for the practice of inoculation. The priests among the less enlightened Indians perform this office, and why should a Christian teacher think himself above it? Surely the bodies of men, as well as their souls, merit a part of the pastor's care; at least the greatest teacher who ever appeared among men, seems to have thought so.

Should all other methods fail, we would recommend it to parents to perform the operation themselves. Let them take any method of communicating the disease they please; provided the subjects be healthy, and of a proper age, they will seldom fail to succeed to their wish. I have known many instances even of mothers performing the operation, and never so much as heard of one bad consequence. A planter in one of the West India islands is said to have inoculated with his own hand, in one year, three hundred of his slaves, who, notwithstanding the warmth of the climate, and other unfavourable circumstances, all did well. Common mechanics have often, to my knowledge, performed the operation with as good success as physicians. We do not, however, mean to discourage those who have it in their power, from employing people of skill to inoculate their children, and attend them while under the disease; but only to shew, that where such cannot be had, the operation ought not upon that account to be neglected.

Instead of multiplying arguments to recommend this practice, I shall just beg leave to mention the method which I took with my own son, then an only child. After giving him two

gentle purges, I ordered the nurse to take a bit of thread which had been previously wet with fresh matter from a pock, and to lay it upon his arm, covering it with a piece of sticking plaster. This remained on six or seven days, till it was rubbed off by accident. At the usual time the small-pox made their appearance, and were exceedingly favourable. Surely this, which is all that is generally necessary, may be done without any skill in medicine.

We have been the more full on this subject, because the benefits of inoculation 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 it 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 die of the small-pox now as before inoculation was introduced; and this important discovery, by which alone more lives might be saved than by all the endeavours of the Faculty, is in a great measure lost by its benefits not being extended to the whole community.*

The spring and autumn have been usually reckoned the most proper seasons for inoculation, on account of the weather being then most temperate; but it ought to be considered that these are generally the most unhealthy seasons of the whole year. Undoubtedly the best preparation for the disease is a previous good state of health. I have always observed that children in particular are more sickly towards the end of spring and autumn than at any other time of the year. On this account, as well as for the advantage of cool air, I would propose winter as the most proper season for inoculation; though, on every other consideration, the spring would seem to be preferable.

The most proper age for inoculation is between three and five. Many approve of inoculating on the breast, and where no circumstances forbid this practice, I have no objection to it. Children, however, are more liable to convulsions at this time than afterwards; besides, the anxiety of the mother or nurse, should the child be in danger, would not fail to heighten it by spoiling the milk.

Children who have constitutional diseases, must nevertheless be inoculated. It will often mend the habit of body; but ought to be performed at a time when they are most healthy. Accidental diseases should always be removed before inoculation.

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* By a well laid plan for extending inoculation, more lives might be saved at a small expense, than are at present preserved by all the hospitals in England, which cost the public such an amazing sum.

It is generally thought necessary to regulate the diet for some time before the disease be communicated. In children, however, great alteration in diet is seldom necessary, their food being commonly of the most simple and wholesome kind, as milk, water-pap, weak broths, bread, light pudding, mild roots, and white meats.

But children who have been accustomed to a richer diet, who are of a gross habit, or abound with bad humours, ought to be put upon a spare diet before they are inoculated. Their food should be of a light cooling nature, and their drink whey, buttermilk, and such like.

We would recommend no other medicinal preparation but two or three mild purges, which ought to be suited to the age and strength of the patient. The success of inoculators does not depend on the preparation of their patients, but on their management of them while under the disease. Their constant care is to keep them cool, and their bodies gently open, by which means the fever is kept low, and the eruption greatly lessened. The danger is seldom great when the pustules are few; and their number is generally in proportion to the fever which precedes and attends the eruption. Hence the chief secret of inoculation consists in regulating the eruptive fever, which generally may be kept sufficiently low by the methods mentioned above.

The regimen during the disease is in all respects the same as under the natural small-pox. The patient must be kept cool, his diet should be light, and his drink weak and diluting, &c. Should any bad symptoms appear, which is seldom the case, they must be treated in the same way as directed in the natural small-pox. Purging is not less necessary after the small-pox by inoculation, than in the natural way, and ought by no means to be neglected.

I have already hinted how great a misfortune it was, that inoculation was first introduced into this country as a medical operation. Had Lady Wortley Montague brought it in as a fashion, her own noble example and that of her friends would soon have rendered it popular; but while it remains in the hands of the Faculty, it cannot be generally beneficial to mankind. Though the practice lays claim to the greatest antiquity, it is no where confined to medical men, in the strict sense of the word, but in Europe. Mr. Holwell says, that, in India, it is next to a miracle to hear that one in a million fails of receiving the infection, or suffers any injury from it, although the business of inoculation is there performed by the bramins or priests.

Though their practice, as described by this very candid and sensible writer, is blended with much superstition, and the parade of useless formalities, yet their success proves it to be

substantially good, and that their conduct is in that respect highly laudable. Did the clergy of Europe follow their conduct in the essential part, inoculation would soon become general, and millions of lives would be annually saved. What a shame that Christian pastors, *whose Master went about curing diseases*, should suffer themselves to be so far outdone by the disciples of Confucius! I feel a pleasure in doing justice to a few of our clergy, who have taken the lead in this career of humane exertion; and I hope the influence of their example will spread itself among the whole order of their clerical brethren.

It is evident, from the success of the bramins, that medical skill is by no means necessary for the inoculation of the small-pox. They administer no medicine either before or after the operation, and only enjoin abstinence from certain articles of diet, which they think might prove injurious to the patient. They lay the whole stress upon what they consider as a proper regimen, both previous to the eruption, and during its continuance; and though some, even of *their* few restrictions, appear to me unnecessary, yet I will venture to assert, that a proper regimen is all that is requisite for the successful inoculation of the small-pox.

I am old enough to remember the time when the success of inoculation was supposed to be entirely owing to *the preparation of the body*, as it was called; but I am convinced that such preparation always has done, and still does, more harm than good. The body cannot be better prepared to meet a disease, than by being in good health. Medicine may cure a disease; but it cannot mend good health. When a person enjoys this blessing, he ought never to meddle with medicine on any account whatever.*

[* Various plans have been proposed with a view wholly to banish the small-pox from our country. Dr. Haygarth has bestowed much attention on this subject; and were the regulations pointed out by him to be rigidly enforced, there is reason to believe they would be found sufficient for the purpose.

A surer and more effectual way, however, to eradicate the disease, is by inoculating with vaccine matter every adult who never has had the small-pox; as likewise every child soon after its birth.

The cautions we have found it necessary to enumerate, are sufficient to shew that no person is inoculated for the small-pox without giving anxiety to the practitioner, the patient, and his friends. It is now no small satisfaction to turn our attention towards a discovery, which promises to deliver us from every doubt, in a case which so often requires a prompt decision.—*Such is the* Cow-Pox: without danger to the patient, and without danger to others, we secure ourselves, our children, and friends. No season need be preferred, no age is improper, and no state of health has been found prohibitory.—Ed.]

[CHAP. XXVII.

OF THE COW-POX.

About one hundred and twenty years ago, the celebrated Dr. Boerhaave, of Leyden, speaking of the small-pox, observes, "There is reason to hope, that a specific may be found to correct this malady: and we are impelled to seek for such a specific, by the vast advantage that would thence accrue to mankind." His words were prophetic, his hope is realized, a specific is discovered for that disease which has been the scourge of Europe for many centuries, and committed the most dreadful ravages in every quarter of the globe. We cannot, at this day, form a due estimate of a preventive for this malady, as its advantages are not confined to the limits of any age or nation, but they embrace the dearest temporal interests of the whole human race, and involve in their consequences the health of all posterity. The degree of interest naturally excited by so important a discovery, has occasioned many practitioners of talent to write upon the subject. Among these, the great majority of professional men, both in England and in foreign countries, contend for its supreme utility; but there are several, who, for a long time, and perhaps to this day, have manifested much apathy towards it, while others again have even been hostile to the practice of vaccination: and, it may not be amiss to remark, that some (including ourselves) who were opposed to the Jennerian practice on its first appearance, are now, and have been for many years, its decided advocates, through conviction of its real value to mankind.*

This disease had not undergone any medical investigation, until Dr. Jenner, of Berkley, in Gloucestershire, paid particular attention to it, and published a pamphlet on the subject in the year 1798. Previous to the publication of Dr. Jenner, we now and then met with persons who were acquainted with the power of cow-pox, several of whom, having had that disorder in the casual way, were preserved from the small-pox, though exposed to its infection. Dr. Jenner, therefore, has not

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* The ingenious author of this work has the following candid observation appended to the preceding chapter, in the last genuine edition, written a short time previous to his decease:—

"The new method of vaccine inoculation has my warmest wishes for its ultimate success. The ease, safety, and simplicity of the process, are strong circumstances in its favour, but time alone can establish its efficacy. Should it prove a certain preventive against the infection in the natural way, the promulgators of so valuable a discovery will be justly entitled to a very high rank among the benefactors of the human race."

the merit of the discovery, but of promulgating that discovery to the world. He investigated the subject in the most active and candid manner, pointed out the source from whence this blessing is derived, exhibited its modification and its genuine progress, and shewed how it may be communicated and multiplied for the benefit of the human family. He very satisfactorily ascertained that it was a much milder disease than the small-pox, and that, in general, it secured those who had been inoculated with it, from being afterwards liable to infection from the small-pox. He also observed, that the vaccine pox is not infectious but by inoculation; and that, on this account, it might be introduced into a family, and communicated to some branches without endangering others; a circumstance of the greatest importance. On the suggestions of Dr. Jenner, many practitioners were induced to adopt the practice of substituting the one disease for the other, and its efficacy is in most cases now fully established.

With respect to the origin of the disease in the cow, we are informed by Dr. Jenner, that he traced it to the heels of horses which had been affected with the grease; and that the person appointed to apply the dressings of them, not paying a due attention to cleanliness, and incautiously bearing his part in milking the cows, with some particles of the infectious matter adhering to his fingers, had communicated the disease to them.

That the vaccine fluid, fraught with such unspeakable benefits to mankind, derives its origin from this humble source, however it may mortify human pride, or medical vanity, is confirmed by the observations and experiments of competent judges. For proofs of this assertion, the reader may consult the works of Doctors Jenner, Woodville, Willan, Pearson, &c. to whom the world is greatly indebted for their calm investigation of the discovery. We happened to become personally acquainted with the last distinguished physician at the time when the subject was so keenly agitated, and are therefore competent to bear our testimony to his valuable labours.

The genuine cow-pox appears on the teats of the cow, in the form of vesicles, of a blue colour, approaching to livid. These vesicles or pimples are elevated at the margin, and depressed at the centre. They are surrounded with inflammation. The animals are indisposed; and the secretion of milk is lessened. The teats of the cow being once affected, the disorder is communicated to the dairy-maids, and other assistants employed in milking, and by them it is spread through the farm, until at last most of the cattle experience its consequences. When the hands of the domestics employed in milking are once infected, we perceive a certain degree of inflammation and suppuration to go on very speedily. Most commonly they come out about the joints of the fingers, and

at their extremities; but whatever parts are affected, if the situation will admit, these superficial suppurations put on a circular form, with their edges more elevated than their centre, and of a colour distinctly approaching to blue. In consequence of absorption, tumors appear in the armpits, the system becomes affected, the pulse is quickened, and rigors, general lassitude, and pains about the limbs and loins, with vomiting, come on. In some instances the head is much affected, and a delirium arises. These symptoms varying in their degrees of violence, usually continue for three or four days, leaving ulcerated sores about the hands, which, from the sensibility of the parts, are very troublesome, and commonly heal slowly, assuming not unfrequently an ugly appearance, like those from which they sprung.

When the pustules are numerous, as sometimes happens, where the disease has been received immediately from the cow, the complaint is attended with a considerable degree of fever: but when it has arisen from inoculation, few or no pustules are to be observed, except immediately round the wound in the arm; and little or no inconvenience is experienced. We have ascertained it to be an undoubted fact, that the vaccine virus is greatly modified, and rendered much milder, by passing through different habits; and that, although the cow-pox has proved in many instances a severe disorder in those who received the infection immediately from the animal, still in a few instances only have the symptoms run high, or has the least inconvenience been experienced, where proper matter, taken from the human subject, was used for inoculation. In the few cases which have been brought forward, where a numerous eruption, preceded by a fiery redness, took place, we should attribute it to something wrong in the habit of body, to the intervening of some other eruptive disease, or, possibly, to the having inoculated with matter which has undergone a decomposition, in consequence of putrefaction, or some other cause not obvious. Medicine seems wholly unnecessary in the cow-pox, except in those cases of the natural disease where much fever attends it, and then the cooling plan ought to be pursued.

A number of cases are recorded by Dr. Jenner, and other authors who have written on this subject, in which persons who have received the cow-pox by casual infection, twenty, thirty, forty, and fifty years before, still continued insusceptible of variolous contagion, in whatever form it was applied. Many direct experiments, made by innumerable practitioners, prove that the susceptibility of the small-pox is in general totally destroyed by inoculating with the vaccine matter. The permanency of the effect was, indeed, some years back a matter of doubt, but that is now pretty well established in the opinion of the unbiased part of the community. We allow,

that soon after Dr. Jenner's first publication on the vaccine disease, a few instances were adduced, tending to invalidate his supposition of the preventive power of the cow-pox with regard to variolous infection; but these he considers to have been cases of a spurious disease, and therefore not affecting his general conclusion. In using this term, he does not mean, however, to imply that there is a true and false cow-pox, but merely to express an irregularity or difference from that common form and progress of the vaccine pustule, from which its efficacy is inferred. Those who perform vaccination ought therefore to be well instructed, and they should have watched, with the greatest care, the regular process of the pustule, and learnt the most proper time for taking the matter. A few cases have been published in the medical journals at different times, with the view of proving that the inoculated cow-pox is not a permanent security against the infection of the small-pox; but a failure in one or two cases out of every twenty thousand, although ever so well substantiated, should be considered in no other light than as a casual irregularity, upon which no solid determination can or ought to be grounded. Instances of a similar nature have been known to occur likewise among persons inoculated with variolous matter; but when they are met with, they ought to be looked on as exceptions to a general law. There can be little doubt, however, that some of the failures are to be imputed to the inexperience of the early vaccinators; and the same remark will apply to many who operate in the present day. Much fault is also attributable to parents, who neglect the direction given by their medical attendants, imagining, that if matter is introduced into the arm, and that arm inflames, the work is accomplished; but we shall endeavour, while treating this subject, to point out what is very material to be attended to, so as to ensure the safety of this interesting process. It is by no means unreasonable to expect, that further observation will yet suggest many improvements, that will reduce the number of anomalous cases, and furnish the means of determining, with greater precision, when the vaccine disease has been effectually received.

Some few there certainly are, who have been vaccinated, and have passed through the cow-pox with all the usual accompanying symptoms, who have afterwards taken the small-pox; but they have generally had imperfect pustules, which die away in a few days, without exciting any constitutional complaint, though the matter taken from these pustules will communicate the small-pox. This circumstance has been brought forward by the anti-vaccinists, as a proof that persons who have had the cow-pox, may afterwards take the small-pox by inoculation and otherwise, not making the proper distinction between local and constitutional infection; or, perhaps, not under-

standing how any one can communicate a disease to others, with which he is not himself infected. This last position is nevertheless true, however paradoxical it may appear to those who are not conversant with the laws of the animal economy, as is confirmed by experience. Among other singularities attending the cow-pox, the mildness of the disease, under the form of inoculation, has been urged as an argument against the practice, the cause appearing to ordinary comprehensions inadequate to the effect. This, it must be allowed, is the best apology that can be offered for scepticism on that point; but it will weigh very little, when put into the scale against actual observation and incontrovertible fact. The efficacy of the cow-pox rests, perhaps, on more extensive evidence, and a more solid foundation, than any other axiom in the whole circle of medical science.

We may therefore declare, that the security derived from vaccination against the small-pox, although not absolutely perfect, is as nearly so as can perhaps be expected from any human discovery: for amongst several hundred thousand cases, with the results of which we are made acquainted, the number of alleged failures has been surprisingly small; so much so, as to form no reasonable objection to the general adoption of vaccination, as an antidote to the loathsome and mortal disease: for it appears, that there are not nearly so many failures, in a given number of vaccinated persons, as there are deaths in an equal number of persons inoculated for the small-pox. Nothing can more clearly demonstrate the superiority of vaccination over the inoculation of the small-pox, than this consideration: and we may add, that, as we have already remarked, where the small-pox has succeeded the cow-pox, the disease has been, with very few exceptions, so mild, as if it had been deprived, by the previous vaccine disease, of all its usual malignity.

From the writings of eminent men who have expressed their sentiments on this disease within the last five and twenty years, we gather the following arguments in favour of inoculation for the cow-pox over that for the small-pox.

1. Of several thousand persons who have had the inoculated cow-pox, only one or two have died.

2. Very few well-attested instances have been produced, out of many thousands of the above persons, known to have had the inoculated vaccine pox, and who were subsequently inoculated for the small-pox, of this disease being afterwards taken; although many of these were also exposed to the infectious effluvia of the natural small-pox.

3. It may safely be affirmed, that the inoculated cow-pox is generally a much slighter disease than the inoculated small-

pox; and that the proportion of severe cases in the latter is to the former as at least ten to one.

4. It does not appear, that the genuine vaccine pox can be propagated, like the small-pox, by effluvia from persons labouring under it. Hence, if the vaccine inoculation should be universally instituted in place of the small-pox, it is reasonable to conclude, that this most loathsome and fatal malady will be extinguished.

5. It does not appear that the vaccine poison, like that of the small-pox, can be conveyed so as to produce the diseases indirectly from diseased persons, by adhering to clothes, furniture, bedding, letters, &c. Hence, no danger of its propagation in these channels is to be apprehended from the universal practice of the inoculation of the cow-pox.

6. It has been found, that a person whose constitution has distinctly undergone the vaccine disease, is in future unsusceptible of the same disorder. Hence, that objection cannot be made to the new inoculation, which was once urged, on account of its being believed, that by the commutation of small-pox for the vaccine pox, an eruptive disease would be introduced, to which the same person would be repeatedly liable.

7. It does not appear that those who have already gone through the small-pox, are susceptible of the vaccine disease, as was at first believed. Hence, no objection can be urged, on the score of persons who have already gone through the small-pox, being liable to a new infectious disease, by the introduction of the vaccine inoculation.

8. Experience shews, that there is no reason to apprehend the smallest chance of deformities of the skin from the vaccine inoculation.

9. The extensive practice of the vaccine inoculation, and the accounts of the disease in the casual way, do not shew that any other disease will be excited subsequently, which is peculiarly imputable to the new practice.

10. Vaccination produces little pain or fever, is very seldom, if ever, attended with pustular eruptions, and requires no tedious preparation; it may therefore be safely performed at any season of the year, and at any period of life.

Lastly. The vaccine pox has not, in any cases we have seen, been succeeded by glandular swellings, cutaneous affections, disease of the lungs, nor any of the appearances (which could be fairly attributed to it) which often occur after the small-pox, whether produced by contagion or inoculation. This circumstance alone, other advantages not being considered, would cast the balance in favour of the inoculation with the cow-pox.

The artificial cow-pox in the human subject is much milder

than the casual disease; and incomparably milder than the small-pox, even under the form of inoculation. We have already observed, that this affection produces no pustulous eruptions. When these attend vaccine inoculation, they are owing to some adventitious cause, such as the small-pox, which it is well known may co-exist with the cow-pox. The vaccine vesicle is confined to the parts where matter is inserted; it is therefore entirely a local and an inoculated disease. Nevertheless, it is certain that eruptions of other kinds, in some instances, attend vaccine inoculation; such as a nettle rash, or an eruption resembling a tooth rash, but rather larger than what is commonly called by that name.

Vaccination is considered perfect, when recent cow-pox fluid has been carefully inserted beneath the outer skin, by a gentle puncture or a slight scratch about the middle of the upper arm, in a person free from any contagious disease, and has produced a semi-transparent pearl-coloured vesicle, which, after the ninth day, becomes surrounded by a more or less conconsiderable efflorescence, and afterwards ends in a hard dark-coloured scab. The form and structure of the cow-pock pustule is peculiar. Its base is circular, somewhat oval, with a diameter of about one-third of an inch. Till the end of the eighth day, its upper surface is uneven, being considerably more raised at the margin than about the middle, and sometimes indented by one or two concentric furrows; but on the ninth or tenth day the surface becomes even, and in a very few instances the central part is highest. The margin becomes turgid in appearance, firm, shining, and circular, so as often to extend a little beyond the line of its base. The vesicle consists internally of numerous little honeycomb cells, filled with clear lymph, and communicating with each other. The areola, which is formed around the vesicles, is of an intense florid colour; more especially in children of a full habit of body. Its diameter differs in different subjects, from a quarter of an inch to two inches, and it is usually accompanied with a considerable swelling and hardness of the surrounding cellular substance. On the eleventh and twelfth day, as the efflorescence disappears, the surface thereof becomes brown in the centre, and less pellucid at the margin. The outer thin skin then begins to separate, and the fluid in the before mentioned cells gradually concretes into a firm round scab of a chesnut colour. This scab assumes at length a black, contracted, and dry appearance, but it is not effectually detached till after the twentieth day from the insertion of the vaccine fluid. It leaves a permanent round cicatrix, and somewhat depressed, the surface being marked with very minute pits or indentations, indicating the number of cells of which the vesicle had been previously composed.

As to the constitutional indisposition, it is seldom considerable, unless there is a complication of this with some other distemper; and whenever any unfavourable symptoms appear, they may in general be traced to some other cause. We have, indeed, great reason to believe, that no ill consequence ever arises from the cow-pox itself, unless from ignorance or neglect.

But notwithstanding the symptoms are so mild, they frequently occur at a very early period. A drowsiness, which is one of the most common attendants of the disease, is often remarked by the parents themselves within forty-eight hours after the matter is inserted. In a majority of cases, a slight increase of heat is perceptible, together with an acceleration of the pulse, and other signs of fever; but none in such a degree as to alarm the most timorous mother. Sometimes the patient is restless at nights; and now and then an instance is met with, in which vomiting occurs; but in many cases, no constitutional indisposition whatever can be perceived. Even then, the cow-pox has never failed to prove an effectual preservative against the small-pox, provided the pustule has been perfect. This being the *grand criterion* of the security of the patient, too minute an attention cannot be paid to its rise, progress, and decline.

The vaccine fluid may be taken for inoculation as soon as a vesicle appears, but if the vesicle is punctured at a very early period, it is more apt to be injured. When virus is wanting for inoculating a considerable number, it is better to let the pustule remain untouched till about the eighth day, by which time it has in general acquired a reasonable magnitude. After that day, if the pustule has made the usual progress, the matter begins to lose its virtue; but it may, in general, be used with safety, though with less certainty of producing infection, till the areola begins to be extensive.

When a considerable inflammation appears within two or three days after inoculation, there is reason to suspect that infection has not taken place; and if suppuration ensues, that suspicion ought, in general, to stand confirmed. Now and then, however, it happens, that after the spurious pustule, or, more properly speaking, the phlegmon, has run its course, which is within a few days, a vesicle begins to appear, bearing every characteristic of the genuine vaccine disease, and yielding a limpid and efficient virus for future inoculations. In this case, the patient is as perfectly secured from all danger of the small-pox, as if no festering of the puncture had preceded. The occurrence of such a case, though rare, is worthy to be recorded; because some practitioners have concluded a spurious pustule to be a certain proof of failure.

If, by any accident, the vesicle is ruptured, suppuration

often ensues. In this case, more attention than ordinary ought to be paid to the progress, and to all the phenomena of the local affection; both on account of the uncertainty of success in the pustule as a preventive, and the greater probability of tedious ulceration. If there is room for the least doubt of the sufficiency of the first inoculation, a second or a third ought to be performed without delay. This, if unnecessary, is seldom attended with inconvenience, and never with danger. Some recommend, as a test of security, to revaccinate during every period of the progress of the vaccine vesicle, and at any future period.

At the first introduction of vaccination, it was customary to use no medical assistance whatever; and, without doubt, the disease is for the most part so simple as to require none. But when inflammation from any cause is excited, and, as must be the case in vaccination if the operation succeeds, it is not always possible to ascertain how far it may extend. It is therefore advisable to make use of those means, which, experience has taught us, are found useful under such a state of the system or part. As nothing can be apprehended for the first week, it is enough to give a gentle purge, according to the strength of the subject, about the sixth day after the insertion. This must be repeated, attending to the above circumstances and the degree of inflammation, particularly whilst the areola is forming. It is not less necessary to watch the process of scabbing. It is well known, that the healing of every sore is sometimes attended with high constitutional irritation; and though there is less danger of this in cow-pox, as the complaint is of short continuance, yet it should be always regarded. Two or three mild purges, at the interval of a few days, is never hurtful to a strong subject; with delicate children a greater degree of caution is necessary; and in cases of very low health, the bark and wine may be judiciously administered, with or without an occasional aperient.

Should the surrounding inflammation, though it may remain circumscribed, be such as to excite alarm, by the uneasiness of the patient, or even from the unnecessary terrors of those around who may be unaccustomed to the sight, we have generally found it sufficient to apply a cold table-spoon, moving it gently over the part: should the metal acquire the heat of the skin before any relief is perceived, it should be changed for another, and so on in succession. But we have seldom found it necessary to continue the operation long enough to overheat the second spoon.

If inflammation runs high, we may employ other means; for instance, a cooling lotion, made with one part of Goulard's extract and ten of rose water; folds of linen dipped in such a wash, may be applied from time to time, as circumstances re-

quire. The same good effect may possibly be obtained by the application of vinegar and water—say one part of the former to three of the latter; but if ulceration threatens to become obstinate or extensive, a mild bread and milk poultice is the best application.

These minute observations no one will despise, unless there be any person so ignorant as not to know, that the care of the arm is almost the whole duty of the practitioner; and that nothing disgusts the public so much against the practice, as a sore arm and its ill consequences.

When limpid fluid cannot be procured, it is necessary to be cautious how it is to be preserved in a dry state. The most improper mode is that of keeping it on a lancet; for the metal quickly rusts, and the vaccine matter becomes decomposed: this method, however, is as likely to succeed as any, when the matter is not to be kept above one day. If the infection be taken on glass, care must be taken not to dilute it too much when used; otherwise it will in all probability fail.

Cotton thread is a very commodious vehicle. If it is intended to be sent to any considerable distance, it ought to be repeatedly dipped in the virus. No particular caution is necessary with regard to the exclusion of air; nevertheless, as it can be done with so little trouble, and is more satisfactory to those who receive the matter, it is better to comply with the practice. On this account, it may be enclosed in a glass tube, or in a tobacco pipe sealed at each end, or between two square bits of glass, which may, if necessary, be also charged with the matter, and wrapped in goldbeater's skin.

Nothing is more destructive to the efficacy of cow-pock matter than heat: on this account, it must not be dried near the fire, nor kept in a warm place. The advantage of *inserting it in a fluid state* is so great, that it is to be wished every practitioner would endeavour to keep a constant supply for his own use, by inoculating his patients in succession, at such periods as are most likely to answer that purpose.

We shall conclude by offering the following condensed instructions as a summary of the preceding remarks.

1. That in inoculation for the cow-pox, the matter should be taken, if practicable, on the eighth day, but on no account later than the ninth day of the disease.

2. That the fluid should be perfectly transparent, as it is not to be depended upon if it has become in any degree opaque.

3. That the matter, if not used immediately, should be allowed to dry gradually and thoroughly before it is laid by for future use.

4. That the punctures can scarcely be made too superficial, and on no account should more than one be made in each arm, at a mid-distance between the shoulder and the elbow.

5. That great care should be exercised to preserve the pustule, so that the process may go on undisturbed.

Lastly. That attention should be paid to repress, as soon as may be, any excess of inflammation that may happen to arise, and this is best done by cold and restringent applications.

While we have been engaged in writing this article, the last report of the National Vaccine Establishment has most opportunely fallen into our hands. We subjoin a copy of it for the information of our readers.*]

[CHAP. XXVIII.

OF THE CHICKEN-POX.

This disease, like the small-pox, seems to depend upon a specific contagion, and affects a person but once during life.

The eruption is sometimes preceded by chilliness, succeeded by flushings and heat, pains in the head and back, thirst, restlessness, and a quick pulse; but at other times no such symptoms are perceptible. About the second or third day the pustules become filled with a watery fluid, which is never converted into yellow matter as in the small-pox, (to the

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Copy of the last Report of the Vaccine Board to the Secretary of State for the Home Department, dated March 18, 1824:—

"To the Right Hon. Robert Peel, Secretary of State for the Home Department, &c. &c. &c.

"Sir,—We have the honour to acquaint you, for the information of Parliament, that although cases of small-pox, after vaccination, continue to be reported to the Board, yet the frequency of such accidents, when compared with the vastly increased number of persons who are now vaccinated, does not appear to be greater in proportion than it was during the earlier years of the discovery.

"The disease, when it does occur under such circumstances, continues to prove as mild and safe in its character as heretofore; so that there is no reason whatever to suppose that the vaccine matter has lost any thing of its efficacy in the course of years which have elapsed since it was first taken from its original source.

"The Board has been occupied in endeavouring to discover, if possible, what habits are most prone to the secondary disorder, and to ascertain upon what peculiarity it depends that so many persons should be rendered entirely secure, whilst a few remain liable to an attack of mitigated small-pox.

"This is a subject which has presented numerous difficulties, and we cannot flatter ourselves that we have yet attained any certainty in the inquiry; we are sure, however, that more attention should be paid to the progress of the vesicle than has hitherto been bestowed upon that point, and that it is most proper to vaccinate with fresh matter, whenever it can be obtained. We are unavoidably led to the latter conclusion by remarking, that of eight thousand persons annually vaccinated in the metropolis by our stationary vaccinators, a very considerably smaller

milder species of which, it seems, however, to bear some affinity :) and about the fifth day they usually dry away, and are formed into crusts or scabs. No danger ever attends the chicken-pox.

The small-pox and chicken-pox differ in the following particulars: in the eruption of the former being preceded by a fever of a certain duration, while that of the latter is either preceded by none, or one of uncertain continuance, in the vesicles appearing much earlier in the chicken-pox than in the small-pox, and about the second or third day being filled with serum; in the matter of the former never acquiring the purulent appearance which it always does in the distinct small-pox; and in the crusts which cover the pustules being formed about the fifth day, at which time those of the small-pox are not at the height of their suppuration.

These distinguishing marks it will be necessary to attend to, as there is great reason to suppose the chicken-pox has not only been sometimes mistaken for small-pox, but that its matter has been used for that of small-pox in inoculation, to which may be ascribed many of the supposed cases of small-pox having appeared a second time in the same person.

With regard to the treatment, in general it is only necessary to make use of a spare regimen on the first appearance of the eruption, and to give one or two cooling purgatives afterwards;

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proportion fall into the secondary disease here, than is observed to be the case out of an equal number vaccinated in the country. This difference we are disposed to attribute chiefly to the necessity which sometimes arises in the country, of using matter which has been kept too long; for notwithstanding repeated and urgent injunctions to all our correspondents, to exert their utmost endeavours to keep up a supply of fresh lymph, it is constantly reported to us that there is considerable difficulty in doing this. Thus, although it may be consolatory to know that a never failing source is to be found in the metropolis, the gratifying conviction is allowed with the apprehension, that, without the protection and support of Parliament, afforded by the establishment and maintenance of this Board, all the advantages resulting from the important discovery of vaccination would run the risk of being lost to society.

"We have sent matter, since our last report, to almost every quarter of this country, and to most of the colonies; and also to Lisbon, to Madrid, to Cochin China, and to China; and it has been received every where with grateful acknowledgments: so that the name of Great Britain is associated, throughout the world, with acts of beneficence as well as of power.

"We have the honour to be, &c. &c.

"Henry Halford, President of the Royal College of Physicians.
R. Powell, Thomas Young, Arch. Billing, Jer. G. Glover,
Censors of the Royal College of Physicians.
Henry Cline, President of the Royal College of Surgeons.
W. Norris, L. Harvey, Vice-Presidents of the Royal College of Surgeons.
Clem. Hue, M. D. Registrar."

but should the febrile symptoms run high, it may then be advisable to make the patient take frequent small doses of some antimonial, with saline draughts and nitre, as advised under the head of Simple Fever, or the distinct Small-pox, drinking plentifully at the same time of cold diluting liquors, and keeping the body open with gentle laxatives or emollient clysters. The like treatment will also be proper in the swine-pox, which is indeed only a species of the chicken-pox.

This disease is so slight as seldom to require much medical assistance; but as it is requisite to mark the difference between it and the distinct small-pox, the principal circumstances in which they vary are contrasted in the following table:

SMALL-POX.	CHICKEN-POX.
Eruptive Symptoms.—Great fever, nausea, vomiting, violent pain in the back, loins, and head.	*Eruptive Symptoms.*—Often no previous illness, and when there is, the fever is very trifling, and attended only with a slight chilliness, cough, and lassitude.
First Appearance.—On the face generally.	*First Appearance.*—On the back generally.
Drying and *Scabbing.*—From the 10th to the 12th day.	*Drying* and *Scabbing.*—About the 4th or 5th day.

CHAP. XXIX.

OF THE MEASLES.

THE measles appeared in Europe about the same time with the small-pox, and have a great affinity to that disease. They both came from the same quarter of the world, are both infectious, and seldom attack the same person more than once. The measles are most common in the spring season, and generally disappear in summer. The disease itself, when properly managed, seldom proves fatal; but its consequences are often very troublesome.*

[* As persons who are not in the profession are liable to confound scarlet fever and measles, we remark, that scarlet fever sometimes resembles measles so nearly as not to be easily distinguishable: this is a matter of great importance, because the method of cure in the two diseases is extremely different.

1. The redness of the scarlet fever is more equally diffused than in the measles, and it is not in distinct spots, with the natural colour of the skin interposed; yet in a few cases it has been observed so. 2. In the measles, the eruption rises more above the skin, and occasions a manifest rough-

Cause.—This disease, like the small-pox, proceeds from infection, and is more or less dangerous, according to the constitution of the patient, the season of the year, the climate, &c.

Symptoms.—The measles, like other fevers, are preceded by alternate fits of heat and cold, with sickness, and loss of appetite. The tongue is white, but generally moist. There is a short cough, a heaviness of the head and eyes, drowsiness, and a running at the nose. Sometimes, indeed, the cough does not come before the eruption has appeared. There is an inflammation and heat in the eyes, accompanied with a 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 small-pox by their scarcely rising above the skin. The fever, cough, and difficulty of breathing, instead of being removed by the eruption, as in the small-pox, are rather increased; but the vomiting generally ceases.

About the sixth or seventh day from the time of sickening, the measles begin to turn pale on the face, and afterwards upon the body; so that by the ninth day they entirely disappear. The 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.*

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ness to the touch, which is hardly observable in the scarlet fever, except a very little roughness sometimes in the arms. 3. In the scarlet fever, there is seldom a severe cough; the eyes do not water much, and the eyelids are not red and swoln; all which rarely fail to attend the measles. —Ed.]

[* An immense number of persons die annually of measles. This will continue to be the case as long as it is regarded by the parents of children as so slight a disease as not to require medical attendance. If a preparation for the reception of small-pox be necessary and beneficial, it is, if possible, more imperiously required for measles.

Whenever it is known to be prevailing, children, who have never had

The most favourable symptoms are, a moderate looseness, a moist skin, and a plentiful discharge of urine.

When the eruption suddenly falls in, and the patient is seized with a delirium, he is in the greatest danger. If the measles turn too soon of a pale colour, it is an unfavourable symptom, as are also great weakness, vomiting, restlessness, and difficulty of swallowing. Purple or black spots appearing among the measles, are very unfavourable. When a continual cough, with hoarseness, succeeds the disease, there is reason to suspect an approaching consumption of the lungs.

Our business in this disease is to assist Nature, by proper cordials, in throwing out the eruption, if her efforts be too languid; but when they are too violent, they must be restrained by evacuations, and cool diluting liquors, &c. We ought likewise to endeavour to appease the most urgent symptoms, as the cough, restlessness, and difficulty of breathing.

Regimen.—The cool regimen is necessary here as well as in the small-pox. The food too must be light, and the drink diluting. Acids, however, do not answer so well in the measles as in the small-pox, as they tend to exasperate the cough. Small beer, likewise, though a good drink in the small-pox, is here improper. The most suitable liquors are decoctions of liquorice with marsh-mallow roots and sarsaparilla, infusions of linseed or of the flowers of elder, balm tea, clarified whey, barley water, and such like. These, if the patient be costive, may be sweetened with honey; or, if that should disagree with the stomach, a little manna may occasionally be added to them.

Medicine.—The measles being an inflammatory disease, without any critical discharge of matter, as in the small-pox, bleeding is commonly necessary, especially when the fever runs high, with difficulty of breathing, and great oppression of the breast.* But if the disease be of a mild kind, bleeding may be omitted.†

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it, should be instantly prohibited animal food, and a considerable reduction should be made in the quantity of their aliments. In addition to this, they should be obliged to take some mild aperient, two or three times a week. If the disease attack persons thus prepared for it, they will be likely to have it in the mildest possible manner. We can venture to assert, that this plan will be found of great utility.

If these precautions are overlooked, and the treatment be injudicious, it will be found, in a great many cases, that the consequences attendant on the measles are frequently more to be dreaded than the immediate disease: for although a person may get through it, and appear for a time to be recovered, still affection of the chest or of the eyes will afterwards arise, and prove extremely troublesome, and perhaps fatal.—Ed.]

* 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.

[† Our author is perfectly correct. The chief indication is to remove

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 camomile tea.

When the cough is very troublesome, with dryness of the throat, and difficulty of breathing, the patient may hold his head over the steam of warm water, and draw the steam into his lungs.

He may likewise lick a little spermaceti and sugar-candy pounded together; or take now and then a spoonful of the mucilage of gum arabic, 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 vigour, 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, it will be necessary to pursue the same method which we have recommended when the small-pox recede. The patient must be supported with wine and cordials. 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 elixir of vitriol; and if the putrid symptoms increase, the Peruvian bark must be administered in the same manner as directed in the small-pox.

After the measles are gone off, the patient ought to be purged. This may be conducted in the same manner as directed in the small-pox.

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the inflammatory symptoms by bleeding and cleansing the bowels, in proportion to the violence of the fever, cough, and difficulty of breathing: but as there may be as great or even greater necessity for this remedy in the secondary fever, an attention to this circumstance must guide us in the use of the lancet during the eruptive stage. In young children, we generally bleed by applying leeches to the chest.—Ed.]

[* In this disease, as well as in all other affections of the lungs, it is of the utmost importance that the cough should be kept quiet. The very effort to cough propels an undue quantity of blood into the lungs, by which it too often happens that their structure is impaired. We may observe on this occasion, (and the remark is applicable to many other instances of irritation in the throat and chest inducing cough,) that equal parts of syrup of poppies and antimonial wine, swallowed very slowly, will allay those troublesome symptoms more effectually than any other remedy. Nitre in small doses, dissolved in the patient's drink, is useful here, as in most other inflammatory diseases.—Ed.]

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 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 colour of the patient's skin, which appears as if it were tinged with red wine. It happens at any season of the year, but is most common towards the end of summer: at which time it often seizes whole families; children and young persons are most subject to it.

It begins, like other fevers, with coldness and shivering, without any violent sickness. Afterwards the skin is covered with red spots, which are broader, more florid, and less uniform, than the measles. They continue two or three days, and then disappear; after which the cuticle, or scarf-skin, falls off.

There is seldom any occasion for medicine in this disease.

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* Attempts have been made to communicate the measles, as well as the small-pox, 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 small-pox; while others recommend a bit of flannel which had 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 small-pox, may be communicated 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 humour 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.

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, with 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 blistering-plaster 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 nature. It is sometimes attended with putrid or malignant symptoms, in which case it is always dangerous. In the malignant scarlet fever, the patient is not only affected with coldness and shivering, but with languor, sickness, and great oppression; to these succeed excessive heat, nausea, and vomiting, with a soreness of the throat; the pulse is extremely quick, but small and depressed; the breathing frequent and laborious; the skin hot, but not quite dry; the tongue moist, and covered with a whitish mucus; the tonsils inflamed and ulcerated. When the eruption appears, it brings no relief; on the contrary, the symptoms generally grow worse, and fresh ones come on, as purging, delirium, &c.

When this disease is mistaken for a 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, snake-root, and the like. The treatment

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[* This fever is sometimes very severe. Having washed out the stomach by an emetic of ipecacuanha, and purged the bowels by giving calomel and jalap, (see Appendix, *Purging Powder*,) we would here earnestly recommend Dr. Currie's treatment, by affusion of cold water, or water barely lukewarm, to extinguish scarlet fever in its early stage: this will frequently prevent redness of the skin, or any affection of the throat, from taking place. This must be done as often as the heat is high; but at a subsequent period, the tepid bath, adapted according to circumstances, will answer the best. We refer to what has been already advanced on this treatment under simple or inflammatory fever.—Ed.]

† Sydenham.

[‡ We are bound to observe here, that some physicians on the continent, and Morton and Armstrong in this country, strongly recommend bleeding and purging in scarlet fever: this practice is new, but it is said to answer in their hands. This is a point, which can only be determined by a medical attendant. We may add, however, that throughout the course of the disease, great attention should be paid to the mouth and throat, by a frequent use of alum gargles, as we direct under putrid sore throat.—Ed.]

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 intermitting fever, is accompanied with a frequent or copious evacuation of bile, either by vomit or stool, the fever is denominated bilious. In Britain, the bilious fever generally makes its appearance about the end of summer, and ceases towards the approach of winter. It is most frequent and fatal in warm countries, especially where the soil is marshy, and when great rains are succeeded by sultry heats. Persons who work without doors, lie in camps, or who are exposed to the night-air, are most liable to this kind of fever.

If there 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, that evacuation may be promoted by giving him, three or four times a day, a table-spoonful of Mindererus's spirit‡ mixed in a cup of his ordinary drink.

If the bilious fever be attended with the 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.

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* 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 quinsey, 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.

† See Appendix, *White Decoction*.

‡ See Appendix, *Spirit of Mindererus*, or *Solution of Acetate of Ammonia*.

For this purpose, the patient, especially towards the end of autumn, ought to continue the use of the Peruvian bark for some time after he is well. He should likewise abstain from all trashy fruits, new liquors, and every kind of flatulent aliment.

Though few fevers bear bleeding better than that which accompanies the measles, yet the lancet is not to be used at random, and without a strict attention to the progress of the disease. If the symptoms run high, with a full, hard pulse, and other signs of inflammation, bleeding will be proper, but not otherwise.

I have looked at fevers, as well as at other disorders, for many years: yet, were any one to ask me, what was good for a fever, I could not tell him, without knowing the particulars of the patient's case. There cannot be a grosser error than that of prescribing to the general name of a disease, though thousands of people in 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 neighbouring kingdom, who, after consulting me for his own complaints, which were chiefly imaginary, requested that I would prescribe for his father and brother, neither of whom I had ever seen. When I told him the absurdity of doing it, he went away seemingly much disappointed, and, I dare say, with a far lower opinion of my abilities than he had conceived from report.

CHAP. XXX.

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 o. 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 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

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* 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.

[† By the generality of practitioners, erysipelas has not been considered as a contagious disease.

The two following examples of severe and well-marked erysipelas of the face proving contagious, will set this question at rest: their authenticity may be depended upon.

Mr. C. after using great exertions in attempting to extinguish a fire that had broken out upon his premises, was attacked, in a few days, with erysipelas on one side of the face, which soon spread to the other, and the whole head became enormously swollen, with so considerable a degree of fever and delirium as to demand the abstraction of blood. The skin was greatly affected, and the disease ran its usual course. As it began to decline, his lady, who had nursed him, and occasionally laid upon his bed during his illness, was attacked with the same disease precisely, attended with a great degree of fever.

Eight or ten months after the occurrence of the preceding case, a gardener, occupying a small house in the garden of a gentleman, was seized with erysipelas of the face, with its usual characteristic symptoms. The medical attendant forbade all intercourse between the gardener and the family. The butler only was directed to carry him whatever he wanted. Exactly as in the preceding instance, as soon as the gardener began to recover, the butler was attacked with the same disease.—Ed.]

exceedingly hard, with great pain, and is apt to suppurate. There is a violent pain in the arm-pit 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 colour 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 humours were vitiated by irregular living, or unwholesome diet.

When the erysipelas is large, deep, and affects a very sensible part of the body, the danger is great. If the red colour changes into a livid or black, it will end in a mortification. Sometimes the inflammation cannot be discussed, but comes to a suppuration; in which case, 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, panado, chicken or barley broth, with cooling herbs and fruits, &c. avoiding flesh, fish, strong drink, spices, pickles, and all other things that may heat and inflame the blood; the drink may be barley-water, an 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 if 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-

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[* This disease is frequently tedious, but seldom mortal. Considerable diversity of opinion has prevailed among medical practitioners, as to the mode of treatment in erysipelas: some pursuing the antiphlogistic or cooling plan, while others again disapprove of all evacuations, and treat it as a disease dependent on irritability. We have always adopted the cooling plan and we have always been successful: in addition to this, we advise the patient to be as much in an erect posture as he can bear without inconvenience.

Some advise the application of cream or lard to the part affected, and in many instances we may employ weak brandy-and-water to the part with manifest advantage. In every severe case, the opinion of a physician should be taken.—Ed.]

plasters must likewise be applied to the neck, or behind the ears, and sharp cataplasms laid to the soles of the feet.

When the inflammation cannot be discussed, and the part has a tendency to ulcerate, it will then be proper to promote suppuration, which may be done by the application of ripening poultices, with saffron, warm fomentations, and such like.

When the black, livid, or blue colour of the part shews a tendency to mortification, the Peruvian bark must be administered. It may be taken along with acids, as recommended in the small-pox, or in any other form more agreeable to the patient. It must not, however, be trifled with, as the patient's life is at stake. A drachm may be given every two hours, if the symptoms be threatening, and cloths dipped in warm camphorated spirits of wine, or the tincture of myrrh and aloes, may be applied to the part, and frequently renewed. It may likewise be proper in this case to apply poultices of the bark, or to foment the part affected with a strong decoction of it.

In what is commonly called the *scorbutic erysipelas*, which continues for a considerable time, it will only be necessary to give gentle laxatives, and such things as purify the blood and promote the perspiration. Thus, after the inflammation has been checked by opening medicines, the decoction of woods* may be drank, after which a course of bitters will be proper.

Such as are liable to frequent attacks of the erysipelas ought carefully to guard against all violent passions; to abstain from strong liquors, and all fat, viscid, and highly nourishing food. They should likewise take sufficient exercise, carefully avoiding the extremes of heat or cold. Their food should consist chiefly of milk, and such fruits, herbs, and roots, as are of a cooling quality; and their drink ought to be small beer, whey, butter-milk, and such like. They should never suffer themselves to be long costive. If that cannot be prevented by suitable diet, it will be proper to take frequently a gentle dose of rhubarb, cream of tartar, the lenitive electuary, or some other mild purgative.†

An absorbent, which takes up the moisture and cools the skin, answers the purpose much better. What I generally use is hair-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,

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* See Appendix, *Decoction of Woods.*

† See Appendix, *Seidlitz Powders.*

the face. I have, however, known it seize upon the knee, and, after laying the bones bare, prove fatal.

CHAP. XXXI.

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 vigour of life. The passionate, the studious, and those whose nervous system is irritable in a high degree, are most liable to it.

CAUSES.—This disease is often occasioned by night-watching, especially when joined with hard study: it may likewise proceed from hard drinking, anger, grief, or anxiety. It is often occasioned by the stoppage of usual evacuations; as the bleeding piles in men, the customary discharges of women, &c. Such as imprudently expose themselves to the heat of the sun, especially by sleeping without doors in a hot season, with their heads uncovered, are often suddenly seized with an inflammation of the brain, so as to awake quite delirious. When repellents are imprudently used in an erysipelas, an inflammation of the brain is sometimes the consequence. It may likewise be occasioned by external injuries, as blows or bruises upon the head, &c.

SYMPTOMS.—The symptoms which usually precede a true inflammation of the brain, are, pain of the head, redness of the eyes, a violent flushing of the face, disturbed sleep, or a total want of it, great dryness of the skin, costiveness, a retention of urine, a small dropping of blood from the nose, singing of the ears, and extreme sensibility of the nervous system.*

When the inflammation is formed, the symptoms in general are similar to those of the inflammatory fever. The pulse indeed is often weak, irregular, and trembling; but sometimes it is hard and contracted. When the brain itself is inflamed, the pulse is always soft and low; but when the inflammation only affects the integuments of the brain, viz. the dura and pia mater, it is hard. A remarkable quickness of hearing is a common symptom of this disease; but that seldom continues long. Another usual symptom is a great throbbing or pulsa-

[* Phrenitis is distinguished from mania or madness, by the attendant fever and pain in the head; and from inflammatory fever, by the early delirium and intolerance of the least noise or light.—ED.]

tion in the arteries of the neck and temples. Though the tongue is often black and dry, yet the patient seldom complains of thirst, and even refuses drink. The mind chiefly runs upon such objects as have before made a deep impression on it; and sometimes, from a sullen silence, the patient becomes all of a sudden quite outrageous.

A constant trembling and starting of the tendons is an unfavourable symptom, as are also a suppression of urine; a total want of sleep; a constant spitting; a grinding of the teeth; which last may be considered as a kind of convulsion. When a phrenitis succeeds an inflammation of the lungs, of the intestines, or of the throat, &c. it is owing to a translation of the disease from these parts to the brain, and generally proves fatal. This shews the necessity of proper evacuations, and the danger of repellents in all inflammatory diseases.

The favourable symptoms are, a free perspiration, a copious discharge of blood from the nose, the bleeding piles, a plentiful discharge of urine, which lets fall a copious sediment. Sometimes the disease is carried off by a looseness, and in women by an excessive flow of the menses.

As this disease often proves fatal in a few days, it requires the most speedy applications. When it is prolonged, or improperly treated, it sometimes ends in madness, or a kind of stupidity, which continues for life.

In the cure, two things are chiefly to be attended to, viz. to lessen the quantity of blood in the brain, and to retard the circulation towards the head.

Regimen.—The patient ought to be kept very quiet. Company, noise, and every thing that affects the senses, or disturbs the imagination, increases the disease. Even too much light is hurtful; for which reason the patient's chamber ought to be a little darkened, and he should neither be kept too hot nor cold. It is not, however, necessary to exclude the company of an agreeable friend, as this has a tendency to soothe and quiet the mind. Neither ought the patient to be kept too much in the dark, lest it should occasion a gloomy melancholy, which is too often the consequence of this disease.

The patient must, as far as possible, be soothed and humoured in every thing. Contradiction will ruffle his mind, and increase his malady. Even when he calls for things which are not to be obtained, or which might prove hurtful, he is not to be positively denied them, but rather put off with the promise of having them as soon as they can be obtained, or by some other excuse. A little of any thing that the mind is set upon, though not quite proper, will hurt the patient less than a positive refusal. In a word, whatever he was fond of, or used to be delighted with, when in health, may here be tried; as pleasing stories, soft music, or whatever has a tendency to soothe the

passions, and compose the mind. Boerhaave proposes several mechanical experiments for this purpose; as the soft noise of water distilling by drops into a bason, and the patient trying to reckon them, &c. Any uniform sound, if low and continued, has a tendency to procure sleep, and consequently may be of service.

The aliment ought to be light, consisting chiefly of farinaceous substances; as panado, and water-gruel, sharpened with jelly of currants, or juice of lemons, ripe fruits roasted or boiled, jellies, preserves, &c.—the drink small, diluting, and cooling; as whey, barley-water, or decoctions of barley and tamarinds, which latter not only 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 hæmorrhoidal veins is likewise of great service, and ought by all means to be promoted. If the patient has been subject to the bleeding piles, and that discharge has been stopped, every method must be tried to restore it; as the application of leeches to the parts, sitting over the steams of warm water, sharp clysters, or suppositories made of honey, aloes, and rock-salt.

If the inflammation of the brain be occasioned by the stoppage of evacuations either natural or artificial, as the menses, issues, setons, or such like, all means must be used to restore them as soon as possible, or to substitute others in their stead.

The patient's body must be kept open by stimulating clysters or smart purges;* and small quantities of nitre ought frequently to be mixed with his drink. Two or three drachms, or more, if the case be dangerous, may be used in the space of twenty-four hours.

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* See Appendix, *Purging Powder—Purging Mixture.*

The head should be shaved, and frequently rubbed with vinegar and rose-water. Cloths dipped in this mixture may likewise be applied to the temples. The feet ought frequently to be bathed in lukewarm water; 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 farther 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. XXXII.

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, quick-lime, or other substances, getting into the eyes. It is often caused by the stoppage of customary evacuations; as the healing of old sores, drying up of issues, the suppressing of gentle morning sweats, or of the sweating of the feet, &c. Long exposure to the night air, especially in cold northerly winds, or whatever suddenly checks the perspiration, especially after the body has been much heated, is very apt to cause an inflammation of the eyes. Viewing snow or other white bodies for a long time, or looking steadfastly at the sun, a clear fire, or any bright object, will likewise occasion this malady. A sud-

[* Linen cloths wetted with vinegar and water, or ether much diluted with water, may be kept constantly to the head, especially to the temples and forehead; and they should be re-wetted as often as they acquire the temperature of the skin.

We have found that the application of cold over the region of the brain by a wet towel, will indeed, in many cases, prove more efficacious than the application of a blister, as this has been observed occasionally not only to accelerate the pulse, but likewise to render the patient more unmanageable.—Ed.]

den transition from darkness to very bright light will often have the same effect.

Nothing more certainly oecasions 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 of scabbed heads, a running behind the ears, or any other discharge of that kind. Inflammations of the eyes often succeed the small-pox or measles, especially in children of a 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 a scalding rheum, which rushes 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 neighbouring 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 upon 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 unfavourable 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 upon 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 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 dipt 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 Epsom 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,

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[* Before we lay down a plan of treatment, we must consider the nature of the disease, *i. e.* whether it is symptomatic of some other malady, or an original affection. If it is symptomatic, the means must be directed to move the primary affection. If it is unconnected with any other ailment, and the symptoms are very severe, we cannot do better than pursue the means directed above:—by general, and more especially by local, bleedings—by purging medicines, such as small doses of calomel and Epsom salts—by avoiding every thing that can irritate the eyes, especially light, and whatever keeps them hot, or occasions any motion of them—by blisters behind the ears, or setons in the neck—by cooling and moderately astringent applications to the eyes—by allaying the pain with opiates, topically applied, and given internally—by avoiding quackery of every kind, and by yielding our practical assent to the above sensible remarks of our author.—ED.]

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 in the neck, or between the shoulders, especially the latter. It should be put upwards and downwards, or in the direction of the spine, and in the middle between the shoulder blades. It may be dressed twice a day with yellow basilicon. I have known patients, who had been blind for a considerable time, recover sight by means of a seton placed as 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, over night, more or less according to his age, or the violence of the symptoms.

After the inflammation is gone off, if the eyes still remain weak and tender, they may be bathed every night and morning with cold water and a little brandy, six parts of the former to one of the latter. A method should be contrived by which the eye can be quite immersed in the brandy and water, where it should be kept for some time. I have generally found this, or cold water, and vinegar as good, a strengthener of the eyes as any of the most celebrated 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 in the form of decoction with the acid elixir of vitriol. 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 service 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 eye, 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 also 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.

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* 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. XXXIII.

OF THE QUINSEY, 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, *viz.* 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 quinsey prove fatal to jovial companions, who, after sitting long in a warm room, drinking hot liquors, and singing with vehemence, were so imprudent as to go abroad in the cold night air. Sitting with wet feet, or keeping on wet clothes, are very apt to occasion this malady. It is likewise frequently occasioned by continuing long in a moist place, sitting near an open window, sleeping in a damp bed, sitting in a room that has been newly plastered, &c. I know people who never fail to have a sore throat if they sit even but a short time in a room that has been lately washed.

Acrid or irritating food may likewise inflame the throat, and occasion a quinsey. It may also proceed from bones, pins, or other sharp substances sticking in the throat, or from the caustic fumes of metals or minerals, as arsenic, antimony, &c. taken in by the breath. This disease is sometimes epidemical and infectious.

Symptoms.—The inflammation of the throat is evident from inspection, the parts appearing red and swelled; besides, the patient complains of pain in swallowing. His pulse is quick and hard, with other symptoms of a fever. If blood be let, it is generally covered with a tough coat of a whitish colour, 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 unfavourable symptom: but if it suddenly falls, and the disease affects the breast, the danger is very great. When a quinsey is the consequence of some other disease, which has already weakened the patient, his situation is dangerous. A frothing at the mouth, with a swelled tongue, a pale, ghastly countenance, and coldness of the extremities, are fatal symptoms.

REGIMEN.—The regimen in this disease is in all respects the same as in the pleurisy, or peripneumony. The food 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 wrapt round it. That alone will often remove a slight complaint of the throat, especially if applied in due time. We cannot here omit observing the propriety of a custom which prevails among the peasants in Scotland and Wales. 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 tea-spoonful of the spirit of *sal ammoniac*. Some recommmend gargles made of a 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: that practice ought therefore never to be neglected. If people were careful to keep warm, to wrap up their throats with flannel, to bathe their feet and legs in warm water, and to use a spare diet, with diluting liquors, at the beginning of this disease, it would seldom proceed to a great height, or be attended with any danger; but when these precautions are neglected, and the disease becomes violent, more powerful medicines are necessary.

MEDICINE.—An inflammation of the throat being a most acute and dangerous distemper, which sometimes takes off the patient very suddenly, it will be proper, as soon as the symptoms appear, to bleed in the arm, or rather in the jugular vein, and to repeat the operation if circumstances require.*

The body should likewise be kept 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 *sal prunel*, or purified nitre, held in the mouth, and swallowed down as it melted. This promotes the discharge of *saliva*, by which means it answers the end of a gargle, while at the same time it abates the fever, by promoting the discharge of urine, &c.

The throat ought likewise to be rubbed twice or thrice a day with a little of the volatile liniment.—This seldom fails to produce some good effects. At the same time the neck ought to be carefully covered with wool or flannel, to prevent the cold from penetrating the skin, as this application renders it very tender. Many other external applications are recommended in this disease, as a swallow's nest, poultices made of the fungus called Jew's ears, album Græcum, &c. But as we do not look upon any of these to be preferable to a common poultice of bread and milk, we shall take no farther notice of them.

Blistering upon the neck, or behind the ears, in violent inflammations of the throat, is very beneficial; and in bad cases,

[* For the removal of inflammation in the throat, the same general cooling treatment as in inflammatory fever must be practised. In the beginning of this disease, and before the feverish symptoms are violent, the exhibition of an emetic will be found extremely useful, and this alone sometimes checks the complaint altogether.—ED.]

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 running by the application of issue ointment, till the inflammation is gone; otherwise, upon their drying up, the patient will be in danger of a relapse.

When the patient has been treated as above, a suppuration seldom happens. This, however, is sometimes the case, in spite of all endeavours to prevent it. When the inflammation and swelling continue, and it is evident that a suppuration will ensue, it ought to be promoted by drawing the steam of warm water into the throat through a funnel, or the like.* Soft poultices ought likewise to be applied outwardly, and the patient may keep a roasted fig constantly in his mouth.

It sometimes happens, before the tumour breaks, that the swelling is so great, as entirely to prevent any thing from getting down into the stomach. In this case, the patient must inevitably perish, unless he can be supported in some other way. This can only be done by nourishing clysters of broth, or gruel with milk, &c. Patients have often been supported by these for several days, till the tumour has broke; and afterwards they have recovered.

Not only the swallowing, but the breathing, is often prevented by the tumour. In this case, nothing can save the patient's life, but opening the *trachea* or wind-pipe. As that has been often done with success, no person, in such desperate circumstances, ought to hesitate a moment about the operation; but as it can only be performed by a surgeon, it is not necessary here to give any directions about it.

When a difficulty of swallowing is not attended with an acute pain or inflammation, it is generally owing to an obstruction of the glands about the throat, and only requires that the part be kept warm, and the throat frequently gargled with something that may gently stimulate the glands, as a decoction of figs with vinegar and honey; to which may be added a little mustard, or a small quantity of spirits. But this gargle is never to be used where there are signs of an inflammation. This species of *angina* has various names among the common people, as *the pap of the throat*, the falling down of the *almonds of the ears*, &c. Accordingly, to remove it, they lift the patient up by the hair of the head, and thrust their fingers under his jaws, &c. all which practices are at best useless, and often hurtful.

Those who are subject to inflammations of the throat, in order to avoid that disease, ought to live temperate. Such as do not

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[* This is best accomplished by Mudge's inhaler; and where this cannot be procured, we propose as a substitute, a basin or a jug with an inverted funnel over it.—ED.]

choose to observe this rule, must have frequent recourse to purging and other evacuations, to discharge the superfluous humours. They ought likewise to beware of catching cold, and should abstain from aliment and medicines of an astringent or stimulating nature.

Violent exercise, by increasing the motion and force of the blood, is apt to occasion an inflammation of the throat, especially if cold liquor be drank immediately after it, or the body suffered suddenly to cool. Those who would avoid this disease ought therefore, after speaking aloud, singing, running, drinking warm liquor, or doing any thing that may strain the throat, or increase the circulation of the blood towards it, to take care to cool gradually, and to wrap some additional covering about their necks.

I have often known persons who had been subject to sore throats, entirely freed from that complaint by only wearing a riband, or a bit of flannel, constantly about their necks, or by wearing thicker shoes, a flannel waistcoat, or the like. These may seem trifling, but they have great effect. There is danger indeed in leaving them off after persons have been accustomed to them; but surely the 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 Quinsey, or Putrid Ulcerous Sore Throat.

This kind of quinsey 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 upon their guard against going near such patients as labour under the disorder; as by that means they endanger not only their own lives, but likewise those of their friends and connexions. Whatever tends to produce putrid or malignant fevers, may likewise occasion the

putrid ulcerous sore throat, as unwholesome air, damaged provisions, neglect of cleanliness, &c.

Symptoms.—It begins with alternate fits of shivering and heat. The pulse is quick, but low and unequal, and generally continues so through the whole course of the disease. The patient complains greatly of weakness and oppression of the breast; his spirits are low, and he is apt to faint away when set upright; he is troubled with a nausea, and often with a vomiting or purging. The two latter are most common in children. The eyes appear red and watery, and the face swells. The urine is at first pale and crude; but, as the disease advances, it turns more of a yellowish colour. The tongue is white, and generally moist, which distinguishes this from an inflammatory disease. Upon looking into the throat, it appears swelled, and of a florid red colour. Pale or ash-coloured spots, however, are here and there interspersed, and sometimes one broad patch or spot, of an irregular figure, and pale white colour, surrounded with florid red, only appears. These whitish spots or sloughs cover so many ulcers.

An efflorescence, or eruption upon the neck, arms, breast, and fingers, about the second or third day, is a common symptom of this disease. When it appears, the purging and vomiting generally cease.

There is often a slight degree of delirium, and the face frequently appears bloated, and the inside of the nostrils red and inflamed. The patient complains of a disagreeable putrid smell, and his breath is very offensive.

The putrid ulcerous sore throat may be distinguished from the inflammatory, by the vomiting and looseness with which it is generally ushered in; the foul ulcers in the throat covered with a white or livid coat; and by the excessive weakness of the patient; with other symptoms of a putrid fever.

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

If a gentle sweat break out about the third or fourth day, and continue with a slow, firm, and equal pulse; if the sloughs cast off in a kindly manner, and appear clean and florid at the bottom; and if the breathing is soft and free, with a lively colour of the eyes, there is reason to hope for a salutary crisis.

Regimen.—The patient must be kept quiet, and for the most part in bed, as he will be apt to faint when taken out of it. His food must be nourishing and restorative; as sago gruel with red wine, jellies, strong broths, &c. His drink

ought to be generous, and of an antiseptic quality; as red wine negus, white wine whey, and such like.

MEDICINE.—The medicine in this kind of quinsey is entirely different from that which is proper in the inflammatory. All evacuations, as bleeding, purging, &c. which weaken the patient, must be avoided. Cooling medicines, as nitre and cream of tartar, are likewise hurtful. Strengthening cordials alone can be used with safety; and these ought never to be neglected.

If at the beginning there is a great nausea, or inclination to vomit, the patient must drink an infusion of green tea, camomile flowers, or *carduus benedictus*, in order to cleanse the stomach. If these are not sufficient, he may take a few grains of the powder of ipecacuanha, or any other gentle vomit.*

If the disease be mild, the throat may be gargled with an infusion of sage and rose leaves, to a gill of which may be added a spoonful or two of honey, and as much vinegar as will make it agreeably acid; but when the symptoms are urgent, the sloughs large and thick, and the breath very offensive, the following 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 and honey.

But when the putrid symptoms run high, and the disease is attended with danger, the only medicine that can be depended upon is the Peruvian bark. It may be taken in substance, if the patient's stomach will bear it. If not, an ounce of bark grossly powdered, with two drachms of Virginian snake-root, may be boiled in an English pint and a half of water to half a pint; to which a tea-spoonful of the elixir of vitriol may be

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[* We would earnestly recommend an emetic of ipecacuanha as the first step to be taken in this alarming disease: this will, in many cases, cut short the progress of the mischief, and in all, it will probably break the force of it.

Cayenne pepper is deemed a valuable medicine in malignant sore throat: it may be given in such quantities as the patient can bear: the same may be dissolved in vinegar and water, and used as a gargle. As children cannot be prevailed on to gargle, it ought to be injected into the mouth and throat with a syringe. On the first appearance of this disease, we should separate the sick from the rest of the family.—ED.]

added, and an ordinary tea-cupful 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 table-spoonfuls 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 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 spirits 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 quinsey, being a local disease, is generally caught by exposing the throat to a draught of cold air. I know many people, who are sure to be troubled with this complaint if they stand or sit near an open window, or continue for any length of time in a room lately washed. There is not a readier or a more certain way to catch a quinsey, than sitting near an open window in a carriage, especially during the night, or when the weather is cold or damp.

The inflammatory sore throat, though it sometimes comes to a suppuration, generally yields to the method of treatment recommended in this chapter. Cases, however, occur where the power of swallowing is lost, and the patient perishes from the mere want of sustenance. I lately saw a very ingenious invention of a young surgeon, by which a man's life was saved in a case of this kind. He fastened a funnel to the skin of an eel, open at both ends; and, by means of a flexible probe, pushed one end down the gullet, till it entered the stomach. Afterwards, milk, broth, or whatever was deemed proper for

nourishing the patient, was put into the funnel, and conveyed to the stomach. Though I mention this chiefly with a view of directing others in the like alarming situations, yet it may also serve to confirm an opinion, often avowed by the late JOHN HUNTER, and well illustrated in his own practice, that presence of mind, and a readiness or fertility of mechanical contrivances, may sometimes prove more serviceable in a critical moment, than all the resources of science.

But the most dangerous kind of quinsey, as I before observed, is that attended with a putrid fever, commonly called the malignant quinsey, or putrid ulcerous sore throat. 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.

CHAP. XXXIV.

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 endeavoured 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 an uniform degree of warmth, such a thing as catching cold would be impossible; but as that cannot be effected by any means, the perspiration must be liable to many changes. Such changes, however, when small, do not affect the health; but, when great, they must prove hurtful.

When oppression of the breast, a stuffing of the nose, un-

[* There is no class of disorders to which the attention of the public in general, and the British practitioner in particular, should be directed, more than the one under consideration. First, because it is the most *common;* secondly, because it is connected with the most *fatal;* and thirdly, because it is the most *neglected* complaint in the whole catalogue of human infirmities.—ED.]

usual weariness, pain of the head, &c. give ground to believe that the perspiration is obstructed, or, in other words, that the person has caught cold, he ought immediately to lessen his diet, at least the usual quantity of his solid food, and to abstain from all strong liquors. Instead of flesh, fish, eggs, milk, and other nourishing diet, he may eat light bread pudding, veal or chicken broth, panado, gruels, and such like. His drink may be water-gruel sweetened with a little honey; an infusion of balm, or linseed sharpened with the juice of bitter orange or lemon; a decoction of barley and liquorice with tamarinds, or any other cool, diluting, acid liquor.

Above all, his supper should be light; as, small posset, or water-gruel sweetened with honey, and a little toasted bread in it. If honey should disagree with the stomach, the gruel may be sweetened with treacle or coarse sugar, and sharpened with the jelly of currants. Those who have been accustomed to generous liquors may take wine-whey instead of gruel, which may be sweetened as above.

The patient ought to lie longer than usual abed, and to encourage a gentle sweat, which is easily brought on towards morning by drinking tea, or any kind of warm diluting liquor. I have often known this practice carry off a cold in one day, which, in all probability, had it been neglected, would have cost the patient his life, or have confined him for some months. Would people sacrifice a little time to ease and warmth, and practise a moderate degree of abstinence when the first symptoms of a cold appear, we have reason to believe that most of the bad effects which flow from an obstructed perspiration might be prevented. But, after the disease has gathered strength by delay, all attempts to remove it often prove vain. A pleurisy, a peripneumony, or a fatal consumption of the lungs, are the common effects of colds which have either been totally neglected, or treated improperly.

Many attempt to cure a cold, by getting drunk; but this, to say no worse of it, is a very hazardous experiment. No doubt it may sometimes succeed, by suddenly restoring the perspiration; but when there is any degree of inflammation, which is frequently the case, strong liquors, instead of removing the malady, will increase it. By this means a common cold may be converted into an inflammatory fever.

When those who labour for their daily bread have the misfortune to catch cold, they cannot afford to lose a day or two, in order to keep themselves warm, and take a little medicine; by which means the disorder is often so aggravated as to confine them for a long time, or even to render them ever after unable to sustain hard labour. But even such of the labouring poor as can afford to take care of themselves, are often too hardy to do it; they affect to despise colds, and, as long as

they can crawl about, scorn to be confined by what they call a *common cold*. Hence it is that colds destroy such numbers of mankind. Like an enemy despised, they gather strength from delay, till at length they become invincible. We often see this verified in travellers, who, rather than lose a day in the prosecution of their business, throw away their lives by pursuing their journey, even in the severest weather, with this disease upon them.

It is certain, however, that colds may be too much indulged. When a person, for every slight cold, shuts himself up in a warm room, and drinks great quantities of warm liquor, it may occasion such a general relaxation of the solids as will not be easily removed. It will, therefore, be proper, when the disease will permit, and the weather is mild, to join to the regimen mentioned above, gentle exercise; as, walking, riding on horseback, &c. An obstinate cold, which no medicine can remove, will yield to gentle exercise and a proper regimen of 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.*

[* Although these affections of the chest and throat seldom prove *immediately* fatal, except when they arise in elderly persons, attack those of a consumptive habit, or have been of frequent occurrence; still they may do so *remotely*, and therefore we would caution the old and the young not to slight what is termed "a common cold." In some instances, what is thought little of, because "*'tis only a cold*," is the commencement of other alarming disorders, as consumption, asthma, and water in the chest. In some constitutions it becomes habitual, and is accompanied by severe oppression at the chest, particularly in the winter: such patients often suffer seriously from the accession of a sharp frost; their usual complaint immediately attacks them, and passes on to the bastard peri-

It will likewise be proper to put a blistering-plaster on the back, to give two table-spoonfuls 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 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 gaiety of the company, the charms of the music, and the variety of 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 farther

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pneumony on the one hand, in which they are almost suffocated by the profuse effusion of phlegm in the lungs and windpipe; or, on the other, it puts on the more active form of common peripneumony. Both these states, of course, require the treatment marked under their respective heads. Very old persons are apt to be carried off by comparatively moderate attacks of these insidious affections, which seem to wear out their feeble portion of animal life, merely by the slight exercise of their respiratory powers, and they quietly sink into the sleep of death, (unless prompt measures be employed,) without any urgent symptom appearing to common observers. When the complaint is epidemic, (as was the case in February, March, and April 1803, and then termed Influenza) it is generally, but not invariably, more severe than the common form of the disease.

The following general rules should be attended to.—Let the bowels be kept freely moved by small doses of Epsom salts, or rather by Seidlitz powders; let the patient be supported by bland nourishment and simple drink—antimonial wine may be given frequently, to promote perspiration, and, if there be no tendency to sweat, the patient may take from twenty to thirty drops of spirits of hartshorn in whey and gruel, while kept warm in bed. The same purpose may be answered by administering a table-spoonful of the spirit of Mindererus, (solution of acetated ammonia,) and sometimes a warm water or vapour bath will prove a valuable auxiliary.—EDITOR.]

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 upon, 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.

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 any thing 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 puppet-show performances, they scarcely appear worthy of either notice or advice. It is not likely that

any argument would make much impression upon 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 shew of rapture die
"Of idiot notes impertinently long."

Of a Common Cough.

A cough is generally the effect of cold, which has either been improperly treated, or entirely neglected. When it proves obstinate, there is always reason to fear the consequences, as this shews 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 that 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 table-spoonfuls 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 table-spoonfuls of this mixture may be taken three or four times a day.

A syrup made of equal parts of lemon-juice, honey, and sugarcandy, is likewise very proper in this kind of cough. A table-spoonful of it may be taken at pleasure.

[* Strictly speaking, a cough is not a disease, but the symptom of a disease: it is an effort of nature to remove that which is offensive to the lungs or the windpipe. Hence, our view should be, not to stop the cough, but to remove or alleviate the exciting cause. This is accomplished in general by simple diet, and moderate exercise; by wearing flannel next the skin, and woollen stockings, which should be changed daily; by paying great attention to the state of the stomach, and keeping the bowels soluble, as pointed out in the preceding note; by promoting expectoration with a solution of gum-ammonia and squills, by inhaling the steam of warm water, and by exhibiting syrup of poppies at night. In addition to this, we can add, that in some peculiar and inveterate cases we have found the most *astonishing* and *permanent* benefit to follow the application of the tartarized liniment (see Appendix) to the chest, and sometimes between the shoulders. It must be applied to produce copious eruptions like small-pox, and the parts afterwards dressed with savin cerate.—ED.]

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 colt'sfoot, may be taken frequently; or a tea-spoonful 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 tea-cupful three or four times a day.*

When a cough is occasioned by acrid humours tickling the 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 humours, and, by taking off their stimulating quality, help to appease the cough.†

In obstinate coughs, proceeding from a flux of humours upon 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 upon a piece of soft leather, about the size of the hand, and laid between the shoulder-blades. It may be taken off and wiped every three or four days, and ought to be renewed once a fortnight or three weeks. This is indeed a cheap and simple medicine, and consequently apt to be despised. It has not indeed always an immediate effect; but, if kept on for some time, it will sometimes succeed where most other medicines fail.

The only inconvenience attending this plaster is the itching which it occasions; but surely this may be dispensed with, considering the advantage which the patient may expect to reap from the application; besides, when the itching becomes

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* See Appendix, *Spanish Infusion*.

† 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.

very uneasy, the plaster may be taken off, and the part rubbed with a dry cloth, or washed with a little warm milk and water. Some caution indeed is necessary in discontinuing the use of such a plaster; this, however, may be safely done by making it smaller by degrees, and at length quitting it altogether in a warm season.*

But coughs proceed from many other causes besides defluxions upon the lungs. In these cases the cure is not to be attempted by pectoral medicines. Thus, in a cough proceeding from 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, that does not happen.

The cure of this cough depends chiefly upon 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 table-spoonfuls 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 twenty-five 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

* Some complain that the pitch plaster adheres too fast, while others find difficulty in keeping it on. This proceeds from the different kinds of pitch made use of, and likewise from the manner of making it. I generally find it answer best when mixed with a little bees-wax, and spread as cool as possible. The clear, hard, transparent pitch answers the purpose best.

† See Appendix, *Hiera Picra*.

gums, or whatever facilitates the cutting of the teeth, likewise appeases the cough. In like manner, when *worms* occasion a cough, such medicines as remove these vermin will generally cure the cough; as bitter purgatives, oily clysters, and such like.

Women, during the last months 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 Hooping-Cough, or Chincough.

This cough seldom affects adults, but proves often fatal to children. Such children as live upon thin watery diet, who breathe unwholesome air, and have too little exercise, are most liable to this disease, and generally suffer most from it.

The 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 farther advanced may be allowed sago gruel, and, if the fever be not high, a little boiled chicken, or other white meats. The drink may be hyssop, or pennyroyal tea, sweetened with honey or sugarcandy, 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 whatever be the cause, we are sure of the fact. No time ought therefore to be lost in removing the patient to some distance

from the place where he caught the disease, and, if possible, into a more pure and warm air.*

When the disease proves violent, and the patient is in danger of being suffocated by the cough, he ought to be bled, especially if there be a fever, with a hard full pulse. But as the chief intention of bleeding is to prevent an inflammation of the lungs, and to render it more safe to give vomits, it will seldom be necessary to repeat the operation; yet if there are symptoms of an inflammation of the lungs, a second or even a third bleeding may be requisite.

It is generally reckoned a favourable symptom when a fit of coughing makes the patient vomit. This cleanses the stomach, and greatly relieves the cough. It will therefore be proper to promote this discharge, either by small doses of ipecacuanha, or the 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 tea-pot, 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 tea-cupful 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 phlegm, but they likewise promote the perspiration and other secretions, and ought therefore to be repeated according to the obstinacy of the disease. They

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[* The danger in chincough seems always to be in proportion to the youth of the person, and the degree of fever and difficulty of breathing which accompany the disease:—but we are to apprehend the greatest danger from neglect, proceeding from an ill-founded opinion, that the complaint must run its course, and that nothing can be done. We admit that, although no specific, no certain remedy, has yet been discovered for this distressing disease, its violence may be much diminished, and its duration shortened; too frequently, however, it is allowed to pursue its natural course, without an effort being made for its removal; and many, very many, become its victims.

It is so common a thing for children to die of small-pox, measles, and hooping-cough, that it is scarcely thought of; but if a child be cut off by some extraordinary disease, the whole neighbourhood is thrown into a state of alarm. Men heave the sigh of sympathy over one untimely grave, but they every day see the earth opened to receive thousands, whom they wilfully suffer to be the victims of diseases, which long experience has shewn to be highly dangerous. How long will they continue to sin against this experience? There are no maladies which more imperiously require the aid of skilful medical treatment than small-pox, hooping-cough, and measles.—Ed.]

† See Appendix, *Vomiting Julep.*

should not however be strong; gentle vomits, frequently repeated, are both less dangerous and more beneficial than strong ones.*

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 every thing 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 upon 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 exceeding good medicine both in the chincough,‡ and in most other

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[* The preparatory measures advised for measles should be resorted to. Emetics should be given twice or three times every week, and the bowels should be freely moved by purgatives: leeches and blisters may be applied frequently to the chest, and the cough quieted by the judicious use of syrup of poppies, either alone or combined with antimonial wine, as directed in measles: but we are bound to add, that we have found no outward application so decidedly beneficial as the emetic tartar liniment applied frequently to the chest, so as to produce eruptions and superficial inflammation. Neither have we found any internal medicine equal to a composition of opium, ipecacuanha, and the carbonate of soda, as recommended by that truly ingenious and eminent physician Dr. George Pearson, of London. In hooping-cough, he advises this remedy in the following proportions to a child between one and two years, viz.—one drop of the tincture of opium, five drops of ipecacuanha wine, and two grains of the carbonate of soda, which may be made up into a small draught with syrup and water, and may be repeated every fourth hour for several days, taking care to remove costiveness, whenever it occurs by calomel and rhubarb. Dr. Pearson is of opinion, that without the soda the other ingredients would not be equally efficacious, and was led to employ it, by the sour smell of the slimy fluid brought up by vomiting; but he suspects that it has an influence beyond that of correcting acidity.

Young children should lie with their heads and shoulders raised, and should be cautiously watched, that when the cough is coming on they may be held up instantly, so as to stand upon their feet, bending a little forward to guard against suffocation.—Ed.]

† Some recommend the extract of hemlock as an extraordinary remedy in the hooping-cough; 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.

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 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. XXXV.

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 that effect.

Symptoms.—It is attended with a fixed pain and burning heat in the stomach; great restlessness and anxiety; a small,

quick, and hard pulse; vomiting, or at least a nausea and sickness; excessive thirst; coldness of the extremities; difficulty of breathing; cold clammy sweats; and sometimes convulsions and fainting-fits. The stomach is swelled, and often feels hard to the touch. One of the most certain signs of this disease is the sense of pain which the patient feels upon taking any kind of food or drink, especially if it be either too hot or too cold.

When the patient vomits every thing he eats or drinks, is extremely restless, has a hiccup, with an intermitting pulse, and frequent fainting-fits, the danger is very great.

Regimen.—All acrimonious, heating, and irritating food and drink are carefully to be avoided. The weakness of the patient may deceive the by-standers, and induce them to give him wines, spirits, or other cordials: but these never fail to increase the disease, and often occasion sudden death. The inclination to vomit may likewise impose on the attendants, and make them think a vomit necessary; but that too is almost certain death.

The food must be light, thin, cool, and easy of digestion. It must be given in small quantities, and should neither be quite cold, nor too hot. Thin gruel made of barley or oatmeal, light toasted bread dissolved in boiling water, or very weak chicken-broth, are the most proper. The drink should be clear whey, barley water, water in which toasted bread has been boiled, or decoctions of emollient vegetables, as liquorice, and 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 upon bleeding, and as long as that is the case, the operation is safe.*

Frequent fomentations with lukewarm water, or a decoction of emollient vegetables, are likewise beneficial. Flannel cloths dipped in these must be applied to the region of the stomach,

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[* The treatment of inflammation of the stomach and of the intestines, must be nearly the same. In both cases, we must have recourse to the most prompt and energetic measures. Blood must be taken largely from the arm, and repeated every six or eight hours, unless the symptoms are relieved. To accomplish this, we should also apply twenty or thirty leeches, and afterwards a blister, to the region of the stomach. Clysters may be thrown up frequently with advantage, but, before the inflammatory symptoms have been removed, and the irritability of the stomach allayed, neither food nor medicine ought to be swallowed. They will only add to the sufferings of the patient, and aggravate the disease.—We must be allowed to observe here, that the treatment of this and other dangerous diseases, should be under the eye of a physician.—Ed.]

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 upon 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, cider, &c. It may likewise be occasioned by a rupture, by scirrhous tumours of the intestines, or by their opposite sides growing together.

The inflammation of the intestines is denominated *Iliac passion*, *Enteritis*, &c. according to the name of the parts affected. The treatment, however, is nearly the same, whatever part of the intestinal canal be the seat of the disease; we shall therefore omit these distinctions, lest they should perplex the reader.

The *symptoms* here are nearly the same as in the foregoing disease; only the pain, if possible, is more acute, and is situated lower. The vomiting is likewise more violent, and sometimes even the excrements, together with the clysters, are discharged by the mouth. The patient is continually belching up wind, and has often an obstruction of his urine.

While the pain shifts, and the vomiting only returns at certain intervals, and while the clysters pass downwards, there is ground for hope; but when the clysters and *fæces* are vomited, and the patient is exceeding weak, with a low fluttering pulse, a pale countenance, and a disagreeable or stinking breath,

there is great reason to fear that the consequences will prove fatal. Clammy sweats, black fœtid stools, with a small intermitting pulse, and a total cessation of pain, are the signs of a mortification already begun, and of approaching death.

REGIMEN.—The regimen in this disease is in general the same as in an inflammation of the stomach. The patient must be kept quiet, avoiding cold, and all violent passions of the mind. His food ought to be very light, and given in small quantities; his drink weak and diluting; as clear whey, barley water, and such like.

MEDICINE.—Bleeding in this, as well as in the inflammation of the stomach, is of the greatest importance. It should be performed as soon as the symptoms appear, and must be repeated according to the strength of the patient and the violence of the disease.*

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 that 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 guts, greatly assist the operation of purgatives in this case.

[* The author remarks above, that bleeding is of the "greatest importance," in this, as well as in the preceding disease.

In inflammation of the bowels, as in all other cases of visceral inflammation, there cannot be a more proper rule than that of drawing blood every six or eight hours, in such a quantity each time as the action of the heart will bear, and continuing the practice as long as the inflammatory symptoms remain. In inflammation of the *brain*, of the *chest*, of the *heart*, of the *stomach*, or of the *liver*, the same practice should be pursued.

Previous to the application of a large blister over the diseased part, we should generally propose leeches and warm fomentations for some time.—ED.]

What answers the purpose of opening the body very well is a solution of Epsom salts. Two ounces of these may be dissolved in an English pint of warm water, or thin gruel, and a tea-cupful of it taken every half hour till it operates. At the same time fifteen, twenty, or twenty-five drops of laudanum may be given in a glass of peppermint or simple cinnamon-water, to appease the irritation, and to 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 had been tried to no purpose, that this was brought about by immersing the patient's lower extremities in cold water, or making him walk upon a wet pavement, and dashing his legs and thighs with the cold water. This method, when others fail, at least merits a trial. It is indeed attended with some danger; but a doubtful remedy is better than none.

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.

[* The exhibition of Seidlitz powders will be found peculiarly proper in this disease. They may be given every three or six hours, according to the state of the bowels.—Ed.]

Such as would avoid this excruciating and dangerous disease, must take care never to be too long without a stool. Some who have died of it, have had several pounds of hard dry *fæces* taken out of their guts. 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 guts, and is generally relieved by a discharge of wind, either upwards or downwards. The pain is seldom confined to any particular part, as the vapour wanders from one division of the bowels to another, till it finds a vent.

When the disease proceeds from windy liquor, green fruits, sour herbs, or the like, the best medicine on the first appearance of the symptoms is a dram of brandy, gin, or any good spirits. The patient should likewise sit with his feet upon a warm hearth-stone, or apply warm bricks to them; and warm cloths may be applied to his stomach and bowels.

This is the only colic wherein ardent spirits, spiceries, or any thing of a hot nature, may be ventured upon. Nor indeed are they to be used here unless at the very beginning, before any

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[* In severe obstructions of the intestines, accompanied by obstinate constipation, and where purgatives fail in procuring motions, it has been proposed to administer quicksilver in considerable quantity, and, no doubt, it will find its way through the intestinal tube in most instances merely by its gravity: but, in our opinion, it is a very precarious remedy.—Ed.]

symptoms of inflammation appear. We have reason to believe, that the colic occasioned by wind or flatulent food might always be cured by spirits and warm liquors, if they were taken immediately upon perceiving the first uneasiness; but when the pain has continued for a considerable time, and there is reason to fear an inflammation of the bowels is already begun, all hot things are to be avoided as poison, and the patient is to be treated in the same manner as for the inflammation of the intestines.

Several kinds of food, as honey, eggs, &c. occasion colics in some particular constitutions. I have generally found the best method of cure for these was to drink plentifully of small diluting liquors, as water-gruel, small posset, toast and water, &c.

Colics which proceed from excess and indigestion generally cure themselves by occasioning vomiting or purging. These discharges are by no means to be stopped, but promoted by drinking plentifully of warm water, or weak posset. When their violence is over, the patient may take a dose of rhubarb, or any other gentle purge, to carry off the dregs of his debauch.

Colics which are occasioned by wet feet, or catching cold, may generally be removed at the beginning by bathing the feet and legs in warm water, and drinking such warm diluting liquors as will promote the perspiration, as weak wine-whey, or water-gruel with a small quantity of spirits in it.

Those flatulent colics which prevail so much among country people, might generally be prevented, were they careful to change their clothes when they get wet. They ought likewise to take a dram, or to drink some warm liquor after eating any kind of green trash. We do not mean to recommend the practice of dram-drinking, but in this case ardent spirits prove a real medicine, and indeed the best that can be administered. A glass of good 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-coloured bile, which being discharged, seems to afford some relief, but is quickly followed by the same violent pain as before. As the distemper advances, the propensity to vomit sometimes increases so as to become almost continual, and the proper motion of the intestines is so far perverted, that there are all the symptoms of an impending iliac passion.

If the patient be young and strong, and the pulse full and frequent, it will be proper to bleed, after which, clysters may be administered. Clear whey or gruel, sharpened with the

juice of lemon, or cream of tartar, must be 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 up to the breast in warm water.

In the bilious colic, the vomiting is often very difficult to restrain. When this happens, the patient may drink a decoction of toasted bread, or an infusion of garden-mint in boiling water. Should these not have the desired effect, the saline draught, with a few drops of laudanum in it, may be given, and repeated according to the urgency of the symptoms. A small quantity of Venice treacle may be spread in form of a cataplasm, and applied to the pit of the stomach. Clysters, with a proper quantity of Venice treacle or liquid laudanum in them, may likewise be frequently administered.*

The *hysteric* colic bears a great resemblance to the bilious. It is attended with acute pains about the region of the stomach, vomiting, &c. What the patient vomits in this case is commonly of a greenish colour. 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 twenty-five drops of liquid laudanum in a glass of cinnamon water. This may be repeated every ten or twelve hours, till the symptoms abate.

The patient may likewise take four or five of the fœtid pills

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[* In the bilious colic, if there is great irritation at the stomach, with vomiting, we may direct a saline draught to be taken in the act of effervescence every three or four hours; or we order the Seidlitz powders in half the usual quantity, frequently repeated, if the bowels are not too loose.

In some cases, it is necessary to move the bowels by means of twenty or thirty grains of the purging powder, and afterwards pursue the above means.—Ed.]

[† It is true, that in the hysteric colic, it will seldom be necessary to make use of evacuations; but should obstinate costiveness prevail, it will be proper to give some gentle laxative, as castor oil or magnesia and rhubarb, administering at the same time, every now and then, a clyster of oatmeal gruel, with about half an ounce of oil of turpentine: this will sometimes be succeeded with immediate relief.—Ed.]

every six hours, and drink a cup of pennyroyal tea after them. If asafœtida should prove disagreeable, which is sometimes the case, a tea-spoonful of the tincture of castor in a cup of pennyroyal tea, or thirty or forty drops of the balsam of Peru dropped upon a bit of loaf-sugar, may be taken in its stead. The anti-hysteric 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 cider counties of England, and is supposed to be occasioned by the leaden vessels used in preparing that liquor. It is likewise a frequent disease in the West Indies, where it is termed the dry belly-ache.

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 guts, that we shall not insist upon 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 remain weak and languid after this disease, he must take exercise on horseback, and use an infusion of the Peruvian bark in wine. When the disease ends in a palsy, the Bath waters are found to be extremely proper.

To avoid this kind of colic, people must shun all sour fruits, acid and austere liquors, &c. Those who work in lead ought never to go to their business fasting, and their food should be oily or fat. They may take a glass of salad oil, with a little brandy or rum, every morning, but should never take spirits alone. Liquid aliment is best for them; as fat broths, &c. but low living is bad. They should frequently go a little out of the tainted air; and should never suffer themselves to be costive. In the West Indies, and on the coast of Guinea, it has been

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* See Appendix, *Anti-hysteric 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 table-spoonful to two or three, if necessary to open the body.

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 two or three hours. 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 spirits of turpentine, tincture of cantharides, &c. Violent motion, as hard riding or walking, especially in hot weather, or whatever drives the blood too forcibly into the kidneys, may occasion this malady. It may likewise proceed from lying too soft, too much on the back, involuntary contractions, or spasms, in the urinary vessels, &c.

Symptoms.—There is a sharp pain about the region of the kidneys, with some degree of fever, and a stupor or dull pain in the thigh of the affected side. The urine is at first clear, and afterwards of a reddish colour; but in the worst kind of the disease it generally continues pale, is passed with difficulty, and commonly in small quantities at a time. The patient feels great uneasiness when he endeavours to walk or sit upright. He lies with most ease on the affected side, and has generally a nausea or vomiting, resembling that which happens in the colic.

This disease, however, may be distinguished from the colic by the pain being seated farther back, and by the difficulty of passing urine, with which it is constantly attended.

Regimen.—Every thing of a heating or stimulating nature is to be avoided. The food must be thin and light; as panado, small broths, with mild vegetables, and the like. Emollient and thin liquors must be plentifully drank; as, clear whey, or balm-tea sweetened with honey, decoctions of marsh-mallow roots, with barley and liquorice, &c. The patient, notwith-

standing the vomiting, must constantly keep sipping small quantities of these or other diluting liquors. Nothing so safely and certainly abates the inflammation, and expels the obstructing cause, as copious dilution. The patient must be kept easy, quiet, and free from cold, as long as any symptoms of inflammation remain.

MEDICINE.—Bleeding is generally necessary, especially at the beginning. Ten or twelve ounces may be let from the arm or foot with a lancet; and if the pain and inflammation continue, the operation may be repeated in twenty-four hours, especially if the patient be of a full habit. Leeches may likewise be applied to the hæmorrhoidal veins, as a discharge from these will greatly relieve the patient.*

Cloths dipped in warm water, or bladders filled with it, must be applied as near as possible to the part affected, and renewed as they grow cool. Emollient clysters 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 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 marsh-mallows: a tea-spoonful of the sweet spirits of nitre, with a few drops of laudanum, may now and then be put in a cup of the patient's drink. 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 chillness, 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 shews that an ulcer is already formed in the kidney, the patient must be careful to abstain from all acrid, sour, and salted provisions; and to live chiefly upon mild mucilaginous herbs and fruits, together with the broth of young animals, made with barley and common pot-herbs, &c. His drink may be whey, and butter-milk that is

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[* The remedies which will be found the most efficacious in this disease, are, bleeding, cupping, leeches and blisters over the kidneys; and especially warm bathing. The warm bath will produce a powerful determination of blood to the surface of the body, and greatly increase the action of the superficial exhalant vessels; two purposes which it is peculiarly desirable to effect in this disorder.—ED.]

* The Ureters are two long and small canals, one on each side, which carry the urine from the bason of the kidneys to the bladder. They are sometimes obstructed by small pieces of gravel falling down from the kidneys, and lodging in them.

not sour. The latter is by some reckoned a specific remedy in ulcers of the kidneys. To answer this character, however, it must be drunk for a considerable time. Chalybeate waters have likewise been found beneficial in this disease. This medicine is easily obtained, as it is found in every part of Great Britain. It must likewise be used for a considerable time, in order to produce any salutary 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 of easy 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 every thing that is of a hot, acrid, and stimulating quality; and should live entirely upon small broths, gruels, or mild vegetables.

A stoppage of urine may proceed from other causes besides an inflammation of the bladder; as, a swelling of the hæmorrhoidal veins; hard *fæces* lodged in the *rectum*; a stone in the bladder; excrescences in the urinary passages, a palsy of the bladder, hysteric affections, &c. Each of these requires a particular treatment, which does not fall under our present consideration. We shall only observe, that in all of them

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[* We think ourselves bound to remark under this head, that almost all the diseases to which the bladder is liable, arise from suffering it to remain in a state of extreme distention. Females, from motives of false delicacy, often entail upon themselves painful and incurable affections of this organ. Inflammation of the bladder, an extreme irritability, and subsequent ulceration of its inner membrane,—an incontinence of urine, or an inability to evacuate it,—may be generally traced to the foolish habit of retaining it too long. *Let this hint be practically remembered.*—EDITOR.]

mild and gentle applications are the safest, as strong diuretic medicines, or things of an irritating nature, generally increase the danger. I have known some persons kill themselves by introducing probes into the urinary passages, to remove, as they thought, somewhat that obstructed the discharge of urine, and others bring on a violent inflammation of the bladder, by using strong diuretics, as oil of turpentine, &c. for that purpose.

Inflammation of the Liver.

The liver is less subject to inflammation than most of the other viscera, as in it the circulation is slower; but when an inflammation does happen, it is with difficulty removed, and often ends in a suppuration or scirrhus.

Causes.—Besides the common causes of inflammation, we may here reckon the following, viz. excessive fatness, a scirrhus of the liver itself, violent shocks from strong vomits when the liver was before unsound, an adust or atrabiliarian state of the blood, any thing that suddenly cools the liver after it has been greatly heated, stones obstructing the course of the bile, drinking strong wines and spirituous liquors, using hot spicy aliment, obstinate hypochondriacal affections, &c.

Symptoms.—This disease is known by a painful tension of the right side under the false ribs, attended with some degree of fever, a sense of weight, or fulness of the part, difficulty of breathing, loathing of food, great thirst, with a pale or yellowish colour of the skin and eyes.

The *symptoms* here are various, according to the degree of inflammation, and likewise according to the particular part of the liver where the inflammation happens. Sometimes the pain is so inconsiderable, that an inflammation is not so much as suspected; but when it happens in the upper or convex part of the liver, the pain is more acute, the pulse quicker, and the patient is often troubled with a dry cough, a hiccup, and a pain extending to the shoulder, with difficulty of lying on the left side, &c.

This disease may be distinguished from the pleurisy, by the pain being less violent, seated under the false ribs, the pulse not so hard, and by the difficulty of lying on the left side. It may be distinguished from the hysteric and hypochondriac disorders by the degree of fever with which it is always attended.

This disease, if properly treated, is seldom mortal. A constant hiccuping, violent fever, and excessive thirst, are bad symptoms. If it ends in a suppuration, and the matter cannot be discharged outwardly, the danger is great. When the 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.*

Medicines which promote the secretion of urine have a very good effect here. For this purpose, half a drachm of purified nitre, or a tea-spoonful of the sweet spirits of nitre, may be taken in a cup of the patient's drink three or four times a day.

When there is an inclination to sweat, it ought to be promoted, but not by warm sudorifics. The only thing to be used for that purpose is plenty of diluting liquor, drunk about the warmth of the 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, all 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 dis-

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[* We have already observed, that bleeding is requisite in this disease; the quantity of blood drawn, must of course be determined by the severity of the pain, and the degree of fever that is present. By neglecting the lancet, and by omitting the application of leeches at the commencement, there will be great danger of matter forming in the liver. After general and local blood-letting, we should apply a succession of blisters, rather than keep one open with stimulating ointment.

The bowels must be freely moved, first by the purging powder, (see Appendix,) afterwards by small doses of Epsom salts frequently repeated, and by clysters made of gruel, common salt, and sweet oil.—Editor.

charged by stool; but these are efforts of Nature, which no means can promote. When the abscess bursts into the cavity of the *abdomen* at large, death must ensue; nor will the event be more favourable when the abscess is opened by an incision, unless in cases where the liver adheres to the *peritonæum*, so as to form a bag for the matter, and prevent it from falling into the cavity of the *abdomen*; in which case, opening the abscess by a sufficiently large incision will probably save the patient's life.*

If the disorder, in spite of all endeavours to the contrary, should end in a scirrhus, the patient must be careful to regulate his diet, &c. in such a manner as not to aggravate the disease. He must not indulge in flesh, fish, strong liquors, or any highly seasoned or salted provisions; but should, for the most part, live on mild vegetables, as fruits and roots, taking gentle exercise, and drinking whey, barley-water, or butter-milk. If he takes any thing stronger, it should be fine mild ale, which is less heating than wines or spirits.

We shall take no notice of inflammations of the other viscera. They must in general be treated upon the same principles as those already mentioned. The chief rule with respect to all of them is, to let blood, to avoid every thing 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 *Andoyne Fomentation*, recommended in the Appendix, to which a handful of camomile 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 a common tub, may be used for the purpose upon 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

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* I know a gentleman who has had several abscesses of the liver opened, and is now a strong and healthy man, though above eighty years of age.

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. XXXVI.

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 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, cold, 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 heart-burn, sour belchings, and flatulencies, with pain of the stomach and intestines. To these succeed excessive vomiting, and purging of green, yellow, or blackish coloured bile, with a distension of the stomach, and violent griping pains. There is likewise a great thirst, with a very quick unequal pulse, and often a fixed acute pain about the region of the navel. As the disease advances, the pulse often sinks so low as to become quite imperceptible, the extremities grow cold, or cramped, and are often covered with a clammy sweat, the urine is obstructed, and there is a palpitation of the heart. Violent hiccuping, fainting, and convulsions, are the signs of approaching death.

MEDICINE.—At the beginning of this disease, the efforts of Nature to expel the offending cause should be assisted, by promoting the purging and vomiting.

For this purpose, the patient must drink freely of diluting

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

liquors; as whey, butter-milk, 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 colour, and afterwards boiled in spring water. If oat-bread cannot be had, wheat-bread, or oat-meal well toasted, may be used in its stead. If this does not put a stop to the vomiting, two table-spoonfuls of the saline julep, with ten drops of laudanum, may be taken every hour till it ceases.

The vomiting and purging, however, ought never to be stopped too soon. As long as these discharges do not weaken the patient, they are salutary, and may be allowed to go on, or rather ought to be promoted. But when the patient is weakened by the evacuations, which may be known from the sinking of his pulse, &c. recourse must immediately be had to opiates, as recommended above; to which may be added strong wines, with spirituous cinnamon waters, and other generous cordials. 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 infusion of the bark, or other bitters, 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, upon the first serious alarm, and before the powers of nature are exhausted. What I generally prescribe is laudanum, to be taken in cinnamon or some other cordial water. Ten drops of laudanum may be added to two ounces of simple cinnamon-water, and the draught repeated every two hours, or oftener, if necessary.*

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, therefore, never to be stopped, unless when it continues too long, or evidently weakens the patient. As this, however, sometimes happens, we shall point out the most common causes of a looseness, with the proper method of treatment.

When a looseness is occasioned by catching cold, or an obstructed perspiration, the patient ought to keep warm, to drink freely of weak diluting liquors, to bathe his feet and legs frequently in lukewarm water, to wear flannel next his skin, and to take every other method to restore the perspiration.

In a looseness which proceeds from excess or repletion, 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 upon light vegetable food of easy digestion, and to drink whey, thin gruel, or barley-water.†

[* Some practitioners recommend half a grain of calomel, and a quarter of a grain of opium, in a pill, every two or three hours, until the symptoms abate:—this medicine will sit on the stomach when laudanum is rejected: the other means suggested above must not be overlooked.—EDITOR.]

[† In addition to the above judicious means, we may propose for one, two, or three nights in succession, as circumstances may indicate, from two to four grains of calomel, with one grain of opium; on the following morning, it will, in general, be proper to direct a table-spoonful of castor oil, or the same quantity of magnesia. This mode of treating diarrhœa

A looseness occasioned by the obstruction of any customary evacuation, generally requires bleeding. If that does not succeed, other evacuations may be substituted in the room of those which are obstructed. At the same time, every method is to be taken to restore the usual discharges, as not only the cure of the disease, but the patient's life, may depend on this.

A periodical looseness ought never to be stopped. It is always an effort of Nature to carry off some offending matter, which, if retained in the body, might have fatal effects. Children are very liable to this kind of looseness, especially while teething. It is, however, so far from being hurtful to them, that such children generally get their teeth with least trouble. If these loose stools should at any time prove sour or griping, a tea-spoonful of magnesia, with four or five grains of rhubarb, may be given to the child in a little panado, or any other food. This, if repeated three or four times, will generally correct the acidity, and carry off the griping stools. The chalk julep may be administered in doses of two or three spoonfuls after each evacuation; or a tea-spoonful of fine powdered chalk may be mixed in a tea-cupful 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

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in adults has been found extremely successful. The same practice will often be applicable to children, by reducing the quantity of medicine according to the age of the patient.—Ed.]

be promoted by warm diluting liquors; as wine-whey with spirits of hartshorn, or a few drops of liquid laudanum in it.

When a looseness proceeds from worms, which may be known from the sliminess of the stools, mixed with pieces of decayed worms, &c. medicines must be given to kill and carry off these vermin, as the powder of tin, with purges of rhubarb and calomel. Afterwards lime-water, either alone, or with a small quantity of rhubarb infused, will be proper to strengthen the bowels, and prevent the new generation of worms.

A looseness is often occasioned by drinking bad water. When this is the case, the disease generally proves epidemical. When there is reason to believe that this or any other disease proceeds from the use of unwholesome water, it ought immediately to be changed, or, if that cannot be done, it may be corrected by mixing with it 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 flavoured with cinnamon; rice-jelly, sago with red port; and the lighter sorts of flesh-meat roasted. The drink may be thin water-gruel, rice-water, or weak broth made from lean veal, or with a sheep's head, as being more gelatinous than mutton, beef, or chicken broth.

Persons who, from a peculiar weakness, or too great an irritability of the bowels, are liable to frequent returns of this disease, should live temperately, avoiding crude summer fruits, all unwholesome foods, and meats of hard digestion. They ought likewise to beware of cold, moisture, or whatever may obstruct the perspiration, and should wear flannel next the skin. All violent passions, as fear, anger, &c. are likewise carefully to be guarded against.

*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 morbific matter of ulcers,

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[* It may be expedient to observe, that purging or vomiting is to be considered in general, as *symptomatic* of some internal mischief, rather than a *primary* disease: attention to this circumstance is absolutely necessary before we determine on our plan of treatment.—Ed.]

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 evacuation, 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 colour, and has a bitter taste. Persons who are subject to nervous affections are often suddenly seized with violent fits of vomiting. Lastly, vomiting is a common symptom of pregnancy. In this case it generally comes on about two weeks after the stoppage of the *menses*, and continues during the first three or four months.

When vomiting proceeds from a foul stomach or indigestion, it is not to be considered as a disease, but as the cure of a disease. It ought therefore to be promoted by drinking lukewarm water, or thin gruel. If this does not put a stop to the vomiting, a dose of ipecacuanha may be taken, and worked off with weak camomile tea.

When the retrocession of the gout, or the obstruction of customary evacuations, occasion vomiting, all means must be used to restore these discharges; or, if that cannot be effected, their place must be supplied by others, as bleeding, purging, bathing the extremities in warm water, opening issues, setons, perpetual blisters, &c.

When vomiting is the effect of pregnancy, it may generally be mitigated by bleeding, and keeping the body gently open. The bleeding, however, ought to be in small quantities at a time, and the purgatives should be of the mildest kind, as figs, stewed prunes, manna, or senna. Pregnant women are most apt to vomit in the morning immediately after getting out of bed, which is owing partly to the change of posture, but more to the emptiness of the stomach. It may generally be prevented, by taking a dish of coffee, tea, or some light breakfast, in bed. Pregnant women who are afflicted with vomiting, ought to be kept easy both in body and mind. They should neither allow their stomachs to be quite empty, nor should they eat much at once. Cold water is a very proper drink in

this case; if the stomach be weak, a little brandy may be added to it. If the spirits be low, and the person apt to faint, a spoonful of cinnamon-water, with a little marmalade of quinces or oranges, may be taken.

If vomiting proceeds from weakness of the stomach, bitters will be of service. Peruvian bark infused in wine or brandy, with as much rhubarb as will keep the body gently open, is an excellent medicine in this case. 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 magnesia, a tea-spoonful 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 effect. The stomach-plaster of the London or Edinburgh dispensatory may be applied to the pit of the stomach. Aromatic medicines may likewise be taken inwardly, as cinnamon or mint-tea, wine with spiceries boiled in it, &c. The region of the stomach may be rubbed with æther, or if that cannot be had, with strong brandy, or other spirits. The belly should be fomented with warm water, or the patient immersed up to the breast in a warm bath.

I have always found the saline draughts taken in the act of effervescence, of singular use in stopping a vomiting, from whatever cause it proceeded. These may be prepared by dissolving a drachm of the 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.*

[* The same good result will frequently follow the application of blisters to the pit of the stomach.—Ed.]

As the least motion will often bring on the vomiting again, even after it has been stopped, the patient must avoid all manner of action. The diet must be so regulated as to sit easy upon the stomach, and nothing should be taken that is hard of digestion. We do not, however, mean that the patient should live entirely upon slops. Solid food, in this case, often sits easier on the stomach than liquids.

CHAP. XXXVII.

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 upon a hard-trotting horse, carrying heavy burdens, running, &c. It may be brought on by hard drinking, or the use of strong stimulating diuretic medicines, as tincture of cantharides, spirits of turpentine, and such like. It is often the effect of drinking too great quantities of mineral waters. Many imagine that these will do them no service unless they be drank in great quantities, by which mistake it often happens that they occasion worse diseases than those they were intended to cure. In a word, this disease may either proceed from too great a laxity of the organs which secrete the urine, from something that stimulates the kidneys too much, or from a thin dissolved state of the blood, which makes too great a quantity of it run off by the urinary passages.

SYMPTOMS.—In a diabetes, the urine generally exceeds in quantity all the liquid food which the patient takes. It is thin and pale, of a sweetish taste, and an agreeable smell. The patient has a continual thirst, with some degree of fever; his mouth is dry, and he spits frequently a frothy spittle. The strength fails, the appetite decays, and the flesh wastes away till the patient is reduced to skin and bone. There is a heat of the bowels; and frequently the loins, testicles, and feet, are swelled.

This disease may generally be cured at the beginning; but after it has continued long, the cure becomes very difficult.

In drunkards, and very old people, a perfect cure is not to be expected.

Regimen.—Every thing that stimulates the urinary passages, or tends to relax the habit, must be avoided. For this reason, the patient should live chiefly on solid food. His thirst may be quenched with acids; as sorrel, juice of lemon, or vinegar. The mucilaginous vegetables, as rice, sago, and salop, with milk, are the most proper food. Of animal substances, shell-fish are to be preferred; as oysters, crabs, &c.

The drink may be Bristol-water. When that cannot be obtained, lime-water, in which a due proportion of oak-bark has been macerated, may be used. 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 upon a hard bed or mattress. Nothing hurts the kidneys more than lying too soft. A warm dry air, the use of the flesh-brush, and every thing that promotes perspiration, is of service. For this reason, the patient ought to wear flannel next his skin. A large strengthening-plaster may be applied to the back; or, what will answer better, a great part of the body may be wrapped in plaster.

Medicine.—Gentle purges, if the patient be not too much weakened by the disease, have a good effect. They may consist of rhubarb, with cardamum-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

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* See Appendix, *White Decoction.*

[† It must be confessed, that we do not yet know a successful method of treating the diabetes, especially if it is of long standing: we shall, however, condense what has been advanced on this subject since the author's decease.

The patient's diet ought to be principally animal food, with a generous allowance of porter, giving at the same time from one to three drachms of nitric acid, properly diluted with water, every day. A total abstinence from all vegetable food is likewise absolutely necessary. There are numerous cases which clearly demonstrate the great efficacy of the animal regimen, in diminishing the quantity and changing the properties of diabetic urine. We are therefore justified by the best authority in saying, that animal food, together with the nitric acid, opiates, blisters to the loins, and the warm or tepid bath, are the best means that we possess.—Editor.]

with every dose of this powder the patient may take a tea cupful of the infusion of roses.*

If the patient's stomach cannot bear the alum in substance whey may be made of it, and taken in the dose of a tea-cupful three or four times a day. The alum-whey is prepared by boiling two English quarts of milk over a slow fire, with three drachms of alum, till the curd separates.

Opiates are of service in this disease, even though the patient rests well. They take off spasm and irritation, and at the same time lessen the force of the circulation. Ten or twelve drops of liquid laudanum may be taken in a cup of the patient's drink three or four times a day.

The best corroborants which we know, are the Peruvian bark and wine. A drachm of bark may be taken in a glass of red port or claret three times a day. The medicine will be both more efficacious and less disagreeable, if fifteen or twenty drops of the acid elixir of vitriol be added to each dose. Such as cannot take the bark in substance, may use the decoction, mixed with an equal quantity of red wine, and sharpened as above.

There is a disease incident to labouring people in the decline of life, called *an INCONTINENCY of Urine.* But this is very different from a diabetes, as the water passes off involuntarily by drops, and does not exceed the usual quantity. This disease is rather troublesome than dangerous. It is owing to a relaxation of the sphincter of the bladder, and is often the effect of a palsy. Sometimes it proceeds from hurts, or injuries occasioned by blows, bruises, preternatural labours, &c. Sometimes it is the effect of a fever. It may likewise be occasioned by a long use of strong diuretics, or of stimulating medicines injected into the bladder.

This disease may be mitigated by the use of astringent and corroborating medicines, such as have been mentioned above; but we do not remember ever to have seen it cured.†

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

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* See Appendix, *Infusion of Roses.*

[† We have attended several cases which have terminated favourably; the best effect will sometimes follow the application of the emetic tartar liniment to the small of the back, and abstaining as much as possible from drink.—Ed.]

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

kidneys, or bladder; small stones or gravel lodging in the urinary passages, hard *fæces* lying in the *rectum*, pregnancy, a spasm or contraction of the neck of the bladder, clotted blood in the bladder itself, a swelling of the hæmorrhoidal veins, &c.

Some of these cases require the catheter, both to remove the obstructing matter, and to draw off the urine; but as this instrument can only be managed with safety by persons skilled in surgery, we shall say nothing further of its use. A bougee may be used by any cautious hand, and will often succeed better than the catheter.

We would chiefly recommend, in all obstructions of urine, fomentations and evacuants. Bleeding, as far as the patient's strength will permit, is necessary, especially where there are symptoms of topical inflammation. Bleeding in this case not only abates the fever, by lessening the force of the circulation, but, by relaxing the solids, it takes off the spasm or stricture upon the vessels, which occasioned the obstruction.

After bleeding, fomentations must be used. These may either consist of warm water alone, or of decoctions of mild vegetables; as mallows, camomile flowers, &c. Cloths dipped in these may either be applied to the part affected, or a large bladder filled with the decoction may be kept continually upon it. Some put the herbs themselves into a flannel bag, and apply them to the part, which is far from being a bad method. These continue longer warm than cloths dipped in the decoction, and at the same time keep the part equally moist.

In all obstructions of urine, the body ought to be kept open. This is not, however, to be attempted by strong purgatives, but by emollient clysters, or gentle infusions of senna and manna. Clysters in this case not only open the body, but answer the purpose of an internal fomentation, and greatly assist in removing the spasms of the bladder and parts adjacent.*

The food must be light, and taken in small quantities. The drink may be weak broth, or decoctions and infusions of mucilaginous vegetables, as marsh-mallow roots, lime-tree

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[* Our author has omitted to mention a remedy of great importance in this malady, viz.—opium. In almost every case of this kind, whether arising from stricture, gravel, inflammation, or spasm, opiates will prove highly serviceable, and ought therefore to be administered, not only by the mouth, with the means recommended above, in doses of half a grain or a grain, every three or four hours; but likewise in clysters, in doses of three or four grains, repeated occasionally. The tincture of muriated iron, commonly called tincture of steel, is a valuable remedy in this disease; it may be given in doses of ten drops, repeated every ten minutes, until some sensible effect is produced. Lastly, tobacco clysters may be employed in desperate cases; and these will sometimes succeed, after all other means have failed.—Ed.]

buds, &c. A tea-spoonful of the sweet spirits 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 temperate. Their diet should be light, and their liquor diluting. They should avoid all acid and austere wines, should take sufficient exercise, lie hard, and avoid study and sedentary occupations.

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 happen to make a lodgment in the bladder for some time, it accumulates fresh matter, and at length becomes too large to pass off with the urine. In this case, the patient is said to have the stone.

Causes.—The stone and gravel may be occasioned by high living; the use of 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 along with ease, all the above symptoms are increased; the pain extends towards the bladder; the thigh and leg of the affected side are benumbed; the testicles are drawn upwards; and the urine is obstructed.

A stone in the bladder is known from 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 upon motion, especially on horseback, or in a carriage on a rough road; or from a white, thick, copious stinking mucous sediment in the urine; from an itching 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, purslain, 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, buttermilk, milk and water, barley-water; decoctions or infusions of the roots of marsh-mallows, parsley, liquorice, or of other mild mucilaginous vegetables, as linseed, lime-tree buds or leaves, &c. If the patient has been accustomed to generous liquors, he may drink gin and water not too strong.

Gentle exercise is proper; but violent motion is apt to occasion bloody urine. We would therefore advise that it should be taken in moderation. Persons afflicted with the gravel often pass a great number of stones after riding on horseback, or in a carriage; but those who have a stone in the bladder are seldom able to bear these kinds of exercise. Where there is an hereditary tendency to this disease, a sedentary life ought never to be indulged. Were people careful, upon the first symptoms of gravel, to observe a proper regimen of diet, and to take sufficient exercise, it might often be carried off, or at least prevented from increasing; but if the same course which occasioned the disease is persisted in, it must be aggravated.

MEDICINE.—In what is called a fit of the gravel, which is commonly occasioned by a stone sticking in the *ureter*, or some part of the urinary passages, the patient must be bled; warm fomentations should likewise be applied to the part affected, emollient clysters administered, and diluting mucilaginous liquors drank, &c. The treatment of this case has been fully pointed out under the articles *Inflammation of the Kidneys and Bladder*, to which 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 oyster or cockle shell lime-water. The Doctor very justly observes, that though this quantity might be too small to have any sensible effect in dissolving a stone in the bladder, yet it may very probably prevent its growth

When a stone is formed in the bladder, the Doctor recommends Spanish soap, and oyster or cockle shell lime-water,* to be taken in the following manner: The patient must swallow every day, in any form that is least disagreeable, an ounce of the internal part of Alicant soap, and drink three or four English pints of oyster or cockle shell lime-water: the soap is to be divided into three doses; the largest to be taken fasting in the morning early, the second at noon, and the third at

* See Appendix, *Lime-water*.

seven in the evening; drinking above each dose a large draught of the lime-water; the remainder of which he may take any time betwixt dinner and supper, instead of other liquors.

The patient should begin with a smaller quantity of the lime-water and soap than that mentioned above; at first an English pint of the former, and three drachms of the latter, may be taken daily. This quantity, however, he may increase by degrees, and ought to persevere in the use of these medicines, especially if he finds any abatement of his complaints, for several months, nay, if the stone be very large, for years. It may likewise be proper for the patient, if he be severely pained, not only to begin with the soap and lime-water in small quantities, but to take the second or third lime-water instead of the first. However, after he has been for some time accustomed to these medicines, he may not only take the first water, but if he finds he can easily bear it, heighten its dissolving power still more by pouring it a second time on fresh calcined shells.

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 marsh-mallow-roots. The patient must begin with small doses of the lees, as thirty or forty drops, and increase 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 any thing of an acrid nature. A decoction of raw coffee-berries, taken morning and evening, to the quantity of eight or ten ounces, with ten drops of sweet spirit of nitre, has likewise been found

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

A more popular remedy, and one attended with less risk, is a solution of super-carbonate of soda in water: the usual proportion is four scruples of the medicine to a pint of water. If a small quantity of lemon or tartarous acid be added to this alkaline solution, a very pleasant effervescence is produced: this quantity may be drank daily. But in the majority of gravelly affections, there are few things more likely to check the disease, or to afford relief, than the frequent use of magnesia.—Ed.]

very efficacious in bringing away large quantities of earthy matter in flakes. Honey is likewise found to be of considerable service, and may be taken in gruel, or in any other form that is more agreeable.

The only other medicine which we shall mention is the *uva ursi*. It has been greatly extolled of late both for the gravel and stone. It seems, however, to be in all respects inferior to the soap and lime-water; but it is less disagreeable, and has frequently, to my knowledge, relieved gravelly complaints. It is generally taken in powder, from half a drachm to a whole drachm, two or three times a day. It may, however, be taken to the quantity of seven or eight drachms a day, with great safety and good effect.

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 hiterto 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 upon 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

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[* Many lives, no doubt, have been lost by delaying the operation for the stone.—But it is pleasing to communicate, that the operation of cutting is now in many cases superseded by the employment of an instrument to dilate the urethra, and thus remove the calculi in a manner that is free from danger and from pain. Mr. James Arnolt, who either invented this practice, or at least brought it into notice, is entitled to public acknowledgment for publishing this interesting discovery.—Ed.]

in having it cut out, before the patient's habit becomes too irritable, or the stone is so far increased in size, that it cannot be extracted without a laceration of the parts.

CHAP. XXXVIII.

OF HÆMORRHAGES, OR 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

[* All hæmorrhages are either active or passive: by the former, we mean such as depend on an increased action of the vessels, either of a particular part, or of the whole body, generally preceded by a febrile attack, and attended with inflamed blood; by the latter we mean such as either depends on local injury, or on the diseased state of the animal fluids, which is not necessarily accompanied with inflammation or fever. Our remarks apply more especially to active hæmorrhages. These occur in full or plethoric habits, and they appear more commonly in the spring or beginning of summer: when they proceed from an internal cause, there must be increased determination of blood to a particular part, producing a greater action of the vessels in that part, by which the blood is poured into vessels whose capacities do not naturally receive it, so that their extremities are distended, and an effusion of blood takes place. As the growth of the human body does not proceed equally in every part, the causes of distension are unequally applied: some parts of the body are necessarily first evolved, therefore they acquire their utmost bulk sooner than others. This appears to be particularly the case with regard to the head, the parts of which are first evolved, and therefore soonest acquire their full size: hence bleeding of the nose is that which occurs first, from any increased determination of blood to the head. The remote causes of involuntary discharges of blood, are, 1. external heat;

periodical flux of blood from one of the fingers, has proved fatal to the health.

In the early period of life, bleeding at the nose is very common. Those who are farther advanced in years are more liable to hæmoptoe, or discharge of blood from the lungs. After the middle period of life, hæmorrhoidal fluxes are most common; and in the decline of life, discharges of blood from the urinary passages.

Involuntary fluxes of blood may proceed from very different, and often from quite opposite causes. Sometimes they are owing to a particular construction of the body, as a sanguine temperament, 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 hæmorrhoidal veins, &c. They may likewise proceed from an inflammatory disposition of the blood, in which case there is generally some degree of fever: this likewise happens when the flux is occasioned by an obstructed perspiration, or a stricture upon the skin, the bowels, or any particular part of the system.

But a dissolved state of the blood will likewise occasion hæmorrhages. Thus, in putrid fevers, the dysentery, the scurvy, the malignant small-pox, &c. there are often very great discharges of blood from different parts of the body. They may likewise be brought on by too liberal an 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 hæmorrhages; as also strong purges and vomits, or any thing that greatly stimulates the bowels.

Violent passions or agitations of the mind will likewise have this effect. These often cause bleeding at the nose, and I

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2. the sudden diminution of the weight of the atmosphere; 3. whatever increases the force of the circulation, such as violent efforts of particular parts; 4. particular postures of the body; 5. external violence; 6. the outward application of cold. Having thus briefly explained the doctrine (the predisposing, and the immediate cause) of hæmorrhages, we proceed to point out the *general indications of cure:* the intelligent reader will perceive, that particular means must be adapted to particular cases, as pointed out in the sequel of this chapter.

A plethoric state is to be prevented or removed by lessening the quantity of food, or by taking such as is less nutritious, and by an increase of exercise; by evacuations, especially purging, for bleeding increases a plethoric disposition—it will, therefore, be only proper to bleed in urgent cases when hæmorrhage has taken place, but not as a means of prevention. The remote as well as the immediate causes are to be avoided. When a discharge of blood comes on, if it continues so long, and flows in such quantity, as to endanger the patient's life or constitution, it must be suppressed by a strict observance of the antiphlogistic regimen. Heat is to be carefully guarded against: the patient must be exposed to the cold air, and make use of cold liquids for his drink, especially vegetable acids.—Ed.]

have known them sometimes occasion an hæmorrhage in the brain. Violent efforts of the body, by overstraining or hurting the vessels, may have the same effect, especially when the body is long kept in an unnatural posture, as hanging the head very low, &c.

The cure of an hæmorrhage must be adapted to its cause. When it proceeds from too much blood, or a tendency to inflammation, bleeding, with gentle purges and other evacuations, will be necessary. It will likewise be proper for the patient in this case to live chiefly upon a vegetable diet, to avoid all strong liquors, and food that is of an acrid, hot, or stimulating quality. The body should be kept cool, and the mind easy.

When an hæmorrhage is owing to a putrid or dissolved state of the blood, the patient ought to live chiefly upon acid fruits, with milk, and vegetables of a nourishing nature, as sago, salop, &c. His drink may be wine diluted with water, and sharpened with the juice of lemon, vinegar, or spirits of vitriol. The best medicine in this case is the Peruvian bark, which may be taken according to the urgency of the symptoms.

When a flux of blood is the effect of acrid food, or of strong stimulating medicines, the cure is to be effected by soft and mucilaginous diet. When an obstructed perspiration, or a stricture upon any part of the system, is the cause of an hæmorrhage, it may be removed by drinking warm diluting liquors, lying a-bed, bathing the extremities in warm water, &c.

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 frenzy, 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 is has often bad, and sometimes fatal consequences.

When a discharge of blood from the nose happens in an in-

flammatory disease, there is always reason to believe that it may prove salutary; and therefore it should be suffered to go on, at least as long as the patient is not weakened by it.

When it happens to persons in perfect health, who are full of blood, it ought not to be suddenly stopped, especially if the symptoms of plethora, mentioned above, have preceded it. In this case, it cannot be stopped without risking the patient's life.

In fine, whenever bleeding at the nose relieves any bad symptom, and does not proceed so far as to endanger the patient's life, it ought not to be stopped. But when it returns frequently, or continues till the pulse becomes low, the extremities begin to grow cold, the lips pale, or the patient complains of being sick or faint, it must immediately be stopped.

For this purpose, the patient should be set nearly upright, with his head reclining a little, and his legs immersed in water about the warmth of new milk. His hands ought likewise to be put in lukewarm water, and his garters may be tied a little tighter than usual. Ligatures may be applied to the arms, about the place where they are usually made for bleeding, and with nearly the same degree of tightness. These must be gradually slackened as the blood begins to stop, and removed entirely as soon as it gives over.

Sometimes dry lint put up the nostrils will stop the bleeding. When this does not succeed, dossils of lint dipped in strong spirits of wine may be put up the nostrils, or, if that cannot be had, they may be dipped in brandy. Blue vitriol dissolved in water may likewise be used for this purpose, or a tent dipped in the white of an egg well beat up, may be rolled in a powder made of equal parts of white sugar, burnt alum, and white vitriol, and put up the nostril from 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 Epsom 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 tea-cupful of the tincture of roses, with twenty or thirty drops of the weak spirit of vitriol, may be taken every

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[* The best styptic we possess, is the tincture or powder of kino, applied to the part on lint in the usual way. Immersing the head in cold water, saturated with common salt, has sometimes been attended with immediate good effect.—Ed.]

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 blood, the diet should be rich and nourishing; as strong broths and jellies, sago-gruel with wine and sugar, &c. Infusions 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 hæmorrhoidal 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, high-seasoned food, drinking great quantities

of sweet wines, the neglect of bleeding, or other customary evacuations, much riding, great costiveness, or any thing that occasions hard 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 chalybeate water, orange-whey, decoctions or infusions of the astringent and mucilaginous plants, as the tormentil root, bistort, the marsh-mallow roots, &c.

Old conserve of red roses is 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

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[* In the treatment of piles, due attention should be paid to the cause from which they have arisen; but the means to be employed, divides itself naturally into local and general. The general means are such as correct the morbid state of the constitution, and especially the digestive function, which is very commonly in fault. As general alteratives—five or six grains of the blue pill, with a grain or two of ipecacuanha, every other or every third night; sulphur and cream of tartar; and electuary of senna, to keep the bowels soluble,—are the best medicines, with or without taraxacum or sarsaparilla. But a great deal of attention should be paid to the state of the constitution generally, in order to discover whether there be erratic gout, or other constitutional mischief; or whether the hæmorrhoidal disturbance be vicarious of some other disease. These things should be well weighed before we attempt to repel the anal determination by astringents, or by the local application of cold. In this complaint, as in spasmodic constriction of the guts, no local means can compare with the employment of lavements or clysters, so as to secure the parts from irritation in the passage of the fæces. This process alone would go far to cure the most obstinate cases. Where there is nothing

in no great repute, owing to its being seldom taken in such quantity as to produce any effects; but when taken as here directed, and duly persisted in, I have known it perform very extraordinary cures in violent hæmorrhages, especially when assisted by the tincture of roses; a tea-cupful of which may be taken about an hour after every dose of the conserve.

The Peruvian bark is likewise proper in this case, both as a strengthener and astringent. Half a drachm of it may be taken in a glass of red wine, sharpened with a few drops of the elixir of vitriol, three or four times a day.

The bleeding piles are sometimes periodical, and return regularly once a month, or once in three weeks. In this case they are always to be considered as a salutary discharge, and by no means to be stopped. Some have entirely ruined their health by stopping a periodical discharge of blood from the hæmorrhoidal veins.

In the *blind piles*, bleeding is generally of use. The diet must be light and thin, and the drink cool and diluting. It is likewise necessary that the body be kept gently open. This may be done by small doses of the flower of brimstone and cream of tartar. These may be mixed in equal quantities, and a tea-spoonful taken two or three times a day, or oftener if necessary. Or an ounce of the flower of brimstone, and half an ounce of purified nitre, may be mixed with three or four ounces of the lenitive electuary, and a tea-spoonful of it taken three or four times a day.

Emollient clysters are here likewise beneficial; but there is sometimes such an astriction of the anus, that they cannot be thrown up. In this case I have known a vomit have a very good effect.

When the piles are exceedingly painful and swelled, but discharge nothing, the patient must sit over the steam of warm water. He may likewise apply a linen cloth dipped in warm

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in the constitution to contraindicate the measure, we have generally found very quick and effectual relief from the following ointment, spread thick on a piece of lint, and kept on the painful and protruded piles by means of a handkerchief or T-bandage. Take of cerate of (superacetate) lead, one ounce; oak galls, in fine powder, one drachm; opium in fine powder, half a drachm; mix them, and use the ointment. An important measure in mitigating the pain and reducing the tumor of piles, is pressure, more especially if preceded by a cold wash. No pile, in fact, ought to be allowed to protrude, and thus become strangulated. On the first appearance of an hæmorrhoidal tumor, it should be pressed back within the sphincter, and prevented from protruding by a very tight bandage and pad. By this application (which, although known to few, is by no means difficult to accomplish,) we have enabled men to walk about with ease, in a few minutes, who were before unable to get off the sofa. But this summary way of giving relief is seldom palatable to the apothecary, who likes to cram his patient's stomach or cupboard with drugs *secundum artem*.—Ed.]

spirits of wine to the part, or poultices made of bread and milk, or of leeks fried with butter. If these do not produce a discharge, and the piles appear large, leeches must be applied as near them as possible; or if they will fix upon the piles themselves, so much the better. When leeches will not fix, the piles may be opened with a 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 form 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 hog's 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 neighbourhood of the anus. Various local remedies are recommended for this complaint. The utility of all of them depends on their power of stimulating the sides of the ulcer into more active inflammation, so as to make them cohere together. On this principle, I think I have seen

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[* If the disease is recent, it may sometimes be relieved by milder means, such as the introduction of a bougie up the rectum. When the hæmorrhoidal attack is over, and not before, the employment of bougies will, in many instances, be attended with great benefit in removing stricture and troublesome excrescences. They may be had of all sizes, and of different consistences, at the shops of surgeons' instrument-makers in London, and other large towns.—Ed.]

advantage from taking a wine-glass of sea-water every night for a month or six weeks. Irritating injections have been used with similar intentions, and have sometimes, when duly persisted in, succeeded.

The only certain radical cure for a fistula is a surgical operation, the object of which is to reduce the ulcer to the state of a simple wound, and as such to heal it. This should never be too long neglected. The disease gradually diffuses itself in various directions through the celluiar 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, 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 *hæmoptoe*, or *spitting of blood*. Persons of a slender make, and a lax fibre, who have long necks and strait breasts, are most liable to this disease. It is most common in the spring, and generally attacks people before they arrive at the prime or middle period of life. It is a common observation, that those who have been subject to bleeding at the nose when young, are afterwards most liable to an hæmoptoe.

Causes.—An hæmoptoe may proceed from excess of blood, from a peculiar weakness of the lungs, or a bad conformation of the breast. It is often occasioned by excessive drinking, running, wrestling, singing, or speaking aloud. Such as have weak lungs ought to avoid all violent exertions of that organ, as they value life. They should likewise guard against violent passions, excessive drinking, and every thing that occasions a rapid circulation of the blood.

This disease may likewise proceed from wounds of the lungs. These may either be received from without, or they may be occasioned by hard bodies getting into the windpipe, and so falling down upon the lungs, and hurting that tender organ. The obstruction of any customary evacuation may occasion a spitting of blood; as neglect of bleeding or purging at the usual seasons, the stoppage of the bleeding piles in men, or

the menses in women, &c. It may likewise proceed from a polypus, scirrhous concretions, or any thing that obstructs the circulation of the blood in the lungs. It is often the effect of a long and violent cough; in which case it is generally the forerunner of a consumption. A violent degree of cold suddenly applied to the external parts of the body will occasion an hæmoptoe. It may likewise be occasioned by breathing air which is too much rarefied to be able properly to expand the lungs. This is often the case with those who work in hot places, as furnaces, glass-houses, or the like. It is likewise said to happen to such as ascend to the top of very high mountains, as the Peak of Teneriff, &c.

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 unfavourable one. This is the case in pleurisies, peripneumonies, and sundry other fevers. In a dropsy, scurvy, or consumption, it is a bad symptom, and shews 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 shew a general stricture upon the vessels, and a tendency of the blood to inflammation, they are commonly the forerunners of a very copious discharge. The above symptoms do not attend a discharge of blood from the gums or fauces, by which means they may always be distinguished from an hæmoptoe. Sometimes the blood that is spit up is thin, and of a florid red colour; and at other times it is thick, and of a dark or blackish colour; nothing, however, can be inferred from this circumstance, but that the blood has lain a longer or shorter time in the breast before it was discharged.

Spitting of blood, in a strong healthy person, of a sound constitution, is not very dangerous; but when it attacks the tender and delicate, or persons of a weak lax fibre, it is with difficulty removed. When it proceeds from a 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. Every thing that heats the blood, or quickens the circulation, increases the danger. The mind ought likewise to be soothed,

and every occasion of exciting the passions avoided. The diet should be soft, cooling, and slender; as rice boiled with milk, small broths, barley-gruels, panado, &c. The diet, in this case, can scarcely be too low. Even water-gruel is sufficient to support the patient for some days. All strong liquors must be avoided. The patient may drink milk and water, barley-water, whey, butter-milk, and such like. Every thing, however, should be drank cold, and in small quantities at a time. He should observe the strictest silence, or at least speak with a very low voice.

MEDICINE.—This, like the other involuntary discharges of blood, ought not to be suddenly stopped by astringent medicines. More mischief is often done by these, than if it were suffered to go on. It may, however, proceed so far as to weaken the patient, and even endanger his life; in which case proper means must be used for restraining it.

The body should be kept gently open by laxative diet; as roasted apples, stewed prunes, and such like. If these should not have the desired effect, a tea-spoonful of the lenitive electuary may be taken twice or thrice a day, as is found necessary. If the bleeding proves violent, ligatures may be applied to the extremities, as directed for a bleeding at the nose.

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 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.*

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 stopping of the hæmorrhoidal flux in men. It may be occasioned by any thing that greatly stimulates or wounds the stomach, as strong vomits or purges, acrid poisons, 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. All the food and drink must be of a mild cooling nature, and taken in small quantities. Even drinking cold water has sometimes proved a remedy, but it will succeed better when sharpened with the weak spirits of vitriol. When there are signs of an inflammation, bleeding may be necessary; but the patient's weakness will seldom permit it. Opiates may be of use; but they must be given in very small doses, as four or five drops of liquid laudanum twice or thrice a day.†

[* If the disease resists all the means which have been advised, and there is reason to fear that the patient may sink under the loss of blood, it will be proper to cover the chest with a large blister; which remedy has often been attended with much advantage in cases of this nature. Absolute quiet of body and mind must be strictly enjoined, and continued for a considerable time after the hæmorrhage has ceased.—Ed.]

[† The tincture of muriate of iron, in doses of twenty or thirty drops in a little cold water, every hour or two, has been successfully administered in this disease. If this is rejected, the tincture of kino may be tried in the same manner. A blister will sometimes aid us in our intentions. But the judicious Dr. James Hamilton, of Edinburgh, asserts, that no medicine does so much good as active purges in cases of vomiting of blood, proceeding from certain obstructions of females, from eighteen to thirty years of age.—Ed.]

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 colour, and emitted with heat and pain about the bottom of the belly, it proceeds from the bladder. When bloody urine is occasioned by a rough stone descending from the kidneys to the bladder, which wounds the *ureter*, it is attended with a sharp pain in the back, and difficulty of making water. If the coats of the bladder are hurt by a stone, and the bloody urine follows, it is attended with the most acute pain, and a previous stoppage of urine.

Bloody urine may, likewise, be occasioned by falls, blows, the lifting or carrying of heavy burdens, hard riding, or any violent motion. It may also proceed from ulcers of the bladder, from a stone lodged in the kidneys, or from violent purges, or sharp diuretic medicines, especially cantharides.

Bloody urine is always attended with some degree of danger: but it is peculiarly so when mixed with purulent matter, as this shews 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 upon an operation, a description of which would be foreign to our purpose.

If it be attended with a plethora, and symptoms of inflammation, bleeding will be necessary. The body must likewise be kept open by emollient clysters, or cooling purgative medicines; as cream of tartar, rhubarb, manna, or small doses of lenitive electuary.

When bloody urine proceeds from a dissolved state of the blood, it is commonly the symptom of some malignant disease; as the small-pox, a putrid fever, or the like. In this case, the patient's life depends on the liberal use of the Peruvian bark, wine, and acids, as has already been shewn.

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 marsh-mallow roots with liquorice, solutions of gum-arabic, &c. Three ounces of marsh-mallow roots, and half an ounce of liquorice, may be boiled in two English quarts of water to one; two ounces of gum-arabic, and half an ounce of purified nitre, may be dissolved in the strained liquor, and a tea-cupful of it taken four or five times a day.

The early use of astringents in this disease has often bad consequences. When the flux is stopped too soon, the grumous blood, by being confined in the vessels, may produce inflammations, abscess, and ulcers. If, however, the case be urgent, or the patient seems to suffer from the loss of blood, gentle astringents may be necessary. In this case the patient may take three or four ounces of lime-water, with half an ounce of the tincture of Peruvian bark, three times a day.*

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 gaols, hospitals, and such like places.

Causes.—The dysentery may be occasioned by any thing that obstructs the perspiration, or renders the humours putrid; as damp beds, wet clothes, unwholesome diet, bad air, &c. But it is most frequently communicated by infection. This ought to make people extremely cautious in going near such persons as labour under the disease. Even the smell of the patient's excrements has been known to communicate the infection.

Symptoms.—It is known by a flux of the belly, attended by violent pain of the bowels, a constant inclination to go to stool, and generally more or less blood in the stools. It begins, like other fevers, with chilness, loss of strength, a quick pulse, great thirst, and an inclination to vomit. The stools are at first greasy and frothy, afterwards they are streaked

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[* A case of voiding of blood by urine is recorded in the eighth volume of Medical Facts and Observations, which had resisted repeated bleedings and warm bathing, saline purgatives, emetics of different kinds, camphor and opium in large doses, uva ursi, mephitic alkaline water, &c. and which was quickly and effectually removed, by giving the patient a pint a day of a decoction of peach leaves. This was prepared, by boiling an ounce of dried leaves of the peach-tree in a quart of water, till it was reduced to a pint and a half.—Ed.]

with blood, and at last have frequently the appearance of pure blood, mixed with small filaments resembling bits of skin. Worms are sometimes passed both upwards and downwards through the whole course of the disease. When the patient goes to stool, he feels a bearing down, as if the whole bowels were falling out, and sometimes a part of the intestine is actually protruded, which proves exceedingly troublesome, especially in children. Flatulency is likewise a troublesome symptom, especially towards the end of the disease.

This disease may be distinguished from a diarrhœa, or looseness, by the acute pain of the bowels, and the blood which generally appears in the stools. It may be distinguished from the *cholera morbus* by its not being attended with such violent and frequent fits of vomiting, &c.

When the dysentery attacks the old, the delicate, or such as have been wasted by the gout, the scurvy, or other lingering diseases, it generally proves fatal. Vomiting and hiccuping are bad signs, as they shew 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 shews the disease to be of the putrid kind. It is an unfavourable symptom when clysters are immediately returned; but still more so when the passage is so obstinately shut, that they cannot be injected. A feeble pulse, coldness of the extremities, with difficulty of swallowing, and convulsions, are signs of approaching death.

Regimen.—Nothing is of more importance in this disease than cleanliness. It contributes greatly to the recovery of the patient, and no less to the safety of such as attend him. In all contagious diseases, the danger is increased, and the infection spread, by the neglect of cleanliness; but in no one more than in this. Every thing about the patient should be frequently changed. The 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 acid.

The patient must not be discouraged, but his spirits kept up in hopes of a cure. Nothing tends more to render any putrid disease mortal, than the fears and apprehensions of the sick. All diseases of this nature have a tendency to sink and depress the spirits, and when that is increased by fears and alarms from those whom the patient believes to be persons of skill, it cannot fail to have the worst effects.

A flannel waistcoat worn next the skin has often a very good effect in the dysentery. This promotes the perspiration without over-heating the body. Great caution, however, is necessary in leaving it off. I have often known a dysentery brought

on by imprudently throwing off a flannel waistcoat before the season was sufficiently warm. For whatever purpose this piece of dress is worn, it should never be left off but in a warm season.

In this disease, the greatest attention must be paid to the patient's diet. Flesh, fish, and every thing that has a tendency to turn putrid or rancid on the stomach, must be abstained from. Apples boiled in milk, water-pap, and plain light pudding, with broth made of the gelatinous parts of animals, may constitute the principal part of the patient's food. Gelatinous broth not only answers the purpose of food, but likewise of medicine. I have often known dysenteries, which were not of a putrid nature, cured by it, after pompous medicines had proved ineffectual.*

Another kind of food very proper in the dysentery, which may be used by such as cannot take the broth mentioned above, is made by boiling a few handfuls of fine flour, tied in a cloth, for six or seven hours, till it becomes as hard as starch. Two or three table-spoonfuls of this may be grated down, and boiled in such a quantity of new-milk and water as to be of the thickness of pap. This may be sweetened to the patient's taste, and taken for his ordinary food.†

In a *putrid dysentery* the patient may be allowed to eat freely of most kinds of good ripe fruit; as apples, grapes, gooseberries, currant-berries, strawberries, &c. These may either

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* The manner of making this broth is, to take a sheep's head and feet, with the skin upon them, and to burn the wool off with a hot iron; afterwards to boil them till the broth is quite a jelly. A little cinnamon or mace may be added, to give the broth an agreeable flavour, and the patient may take a little of it warm with toasted bread three or four times a day. A clyster of it may likewise be given twice a day. Such as cannot use the broth made in this way, may have the head and feet skinned; but we have reason to believe that this injures the medicine. It is not our business here to reason upon the nature and qualities of medicine, otherwise this might be shewn to possess virtues every way suited to the cure of a dysentery which does not proceed from a putrid state of the humours. One thing we know, which is preferable to all reasoning, that whole families have often been cured by it, after they had used many other medicines in vain. It will, however, be proper that the patient take a vomit, and a dose or two of rhubarb, before he begins to use the broth. It will likewise be necessary to continue the use of it for a considerable time, and to make it the principal food.

† The learned and humane Dr. Rutherford, late professor of medicine in the university of Edinburgh, used to mention this food in his public lectures with great encomiums. He directed it to be made by tying a pound or two of the finest flour, as tight as possible, in a linen rag, afterwards to dip it frequently in water, and to dredge 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.

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 shew, that good fruit is one of the best medicines, both for the prevention and cure of the dysentery. Good fruit is in every respect calculated to counteract that tendency to putrefaction, from whence the most dangerous kind of dysentry 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, are all very proper, and may be drank in turns. Camomile-tea, if the stomach will bear it, is an exceeding 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 camomile-tea. Strong vomits are seldom necessary here. A scruple, or at most half a drachm, of ipecacuanha, is generally sufficient for an adult, and sometimes a very few grains will suffice. The day after the vomit, half a drachm, or two scruples of rhubarb, must be taken; or what will answer the purpose rather better, an ounce, or an ounce and a half, of Epsom salts. This dose may be repeated every other day for two or three times. Afterwards small doses of ipecacuanha may be taken for some time. Two or three grains of the powder may

* 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.

be mixed in a table-spoonful 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 liquid laudanum in it, may be administered twice a day. At the same time, an ounce of gum-arabic, and half an ounce of gum-tragacanth, may be dissolved in an English pint of barley-water, over a slow fire, and a table-spoonful of it taken every hour.

If these have not the desired effect, the patient may take, four times a day, about the bulk of a nutmeg of the *Japonic confection*, drinking after it a tea-cupful 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.

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.

[* Some obstinate cases of dysentery will yield to a combination of calomel and opium. The other auxiliary remedies are pointed out above in a correct way. Much false theory and bad practice still obtain in the management of dysentery in this country, among those who have not seen it on an extensive scale. The afflux of blood to the inner surface of the intestines, and the acrid secretions which are poured into the bowels, have led to the erroneous idea, that these morbid secretions must be carried off daily by purgatives. But a more enlightened theory, and, what is better to the purpose, a more judicious practice, point to a *preventive* of these morbid secretions, which will obviate the pain, and the necessity of their removal. Change the balance of the circulation from the abdominal viscera to the surface, by warmth, quietude, and sudorifics: allay the irritability of the bowels by opiates, chalk, and gum-arabic: and, in this country at least, you will have occasion to do little else, except exhibiting, from time to time, a little castor oil or Epsom salts.—Ed.]

† See Appendix, *Decoction of Logwood.*

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.*

There are sundry other fluxes of the belly, as the LIENTERY and CŒLIAC PASSION, which, though less dangerous than the dysentery, yet merit consideration. These diseases generally proceed from a relaxed state of the stomach and intestines, which is sometimes so great, that the food passes through them with hardly any sensible alteration; and the patient dies merely from the want of nourishment.

When the lientery or cœliac passion succeeds to a dysentery, the case is bad. They are always dangerous in old age, especially when the constitution has been broken by excess, or acute diseases. If the stools be very frequent and quite crude, the thirst great, with little urine, the mouth ulcerated, and the face marked with spots of different colours, the danger is very great.

The treatment of the patient is in general the same as in the dysentery. In all obstinate fluxes of the belly, the cure must be attempted, by first cleansing the stomach and bowels with gentle vomits and purges; afterwards, such a diet as has a tendency to heal and strengthen the bowels, with opiates and astringent medicines, will generally complete the cure.

The same observation holds with respect to a TENESMUS, or frequent desire of going to stool. This disease resembles the dysentery so much, both in its symptoms and method of cure, that we think it needless to insist upon it.†

CHAP. XXXIX.

OF THE HEADACHE, PAIN IN THE FACE, ETC.

ACHES and pains proceed from very different causes, and may affect any part of the body; but we shall point out those

[* The best preventive is the adaptation of diet, and uniform warmth: hence, we would recommend swathing the abdomen with flannel bandages, as being the best mode of confining a certain degree of heat over that part of the body which is the seat of the disease.—ED.]

[† Such as are subject to these complaints, and are desirous of further information, are directed to consult Dr. James Johnson's masterly work "On the Diseases of Tropical Climates."—ED.]

only which occur most frequently, and are attended with the greatest danger.

When the headache is slight, and affects a particular part of the head only, it is called *cephalalgia;* when the whole head is affected, *cephalæa;* and when one side only, *hemicrania.* A fixed pain in the forehead, which may be covered with the end of the thumb, is called the *clavis hystericus.*

There are also other distinctions. Sometimes the pain is internal, sometimes external; sometimes it is an original disease, and at other times only symptomatic. When the 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 any thing 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 forepart of the head, in which there seems to be such a weight, that the patient can scarcely hold it up. When it is occasioned by the caustic matter of the venereal disease, it generally affects the skull, and often pruduces a *caries* of the bones.

Sometimes the headache proceeds from the repulsion or retrocession of the gout, the erysipelas, the small-pox, measles, itch, or other eruptive diseases. What is called a *hemicrania* generally proceeds from crudities or indigestion. Inanition, or emptiness, will also occasion 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 inter-

mitting fevers, especially quartans. It is likewise a very common symptom in hysteric and hypochondriac complaints.

When a headache attends an acute fever, with pale urine, it is an unfavourable 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, deafness, 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 humours, and keep the body open; as apples 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 any thing that will irritate the nose, so as to promote a discharge from it; as the herb mastich, ground-ivy, &c.

A *hemicrania*, especially a periodical one, is generally owing to a foulness of the stomach, for which gentle vomits must be adminstered, 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 humours, as in the scurvy and venereal disease, the patient, after proper evacuations, must drink freely of the decoction of woods, or the decoction of sarsaparilla, with raisins and liquorice.† These, if duly persisted in, will produce very happy effects. When a collection of matter is felt under the skin, it must be discharged by an incision, otherwise it will render the bone carious.

When the 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 Bate's anodyne balsam, or a cloth dipped in it may be applied to the part. The patient may, at the same time, take twenty drops of laudanum, in a cup of valerian or penny-royal tea, twice or thrice a day. This is only to be done in case of extreme pain. Proper evacuations ought always to accompany and follow the use of opiates.

When the patient cannot bear the loss of blood, his feet ought frequently to be bathed in lukewarm water, and well rubbed with a coarse cloth. Cataplasms with mustard or horseradish ought likewise to be applied to them. This course is peculiarly necessary when the pain proceeds from a gouty humour affecting the head.

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

A little æther, dropt into the palm of the hand, and applied to the forehead, will sometimes remove a violent headache.‡

[* We now and then meet with attacks of headache, proceeding from a stagnation of serum in the vessels, or on the membranes of the head; for which, perpetual blisters, issues, and mercurial purges, will be found the most efficacious. In periodical headaches, many physicians direct "Fowler's solution of arsenic," as advised under the head "Intermittent Fevers," but this active remedy can only be administered safely under the inspection of an experienced medical attendant. We have succeeded in removing many of these periodical affections by the sulphate of zinc, in one or two grain doses, five or six times each day of intermission; having first corrected the state of the stomach and bowels.—Ed.]

† See Appendix, *Decoction of Sarsaparilla.*

[‡ Much of this severe affliction is owing to a redundancy of hair, especially in females. Remove the cause—lessen the quantity of hair, and wash the head with vinegar, or water impregnated with common salt, and in many instances you remove the disease.—Ed.]

[*Tic Douloureux, or Painful Affection of the Nerves of the Face.*

Almost the whole of our life is taken up in the pursuit of pleasure, or the evasion of pain. The former is but a fleeting enjoyment, while the latter is the common and constant attendant on humanity, from the cradle to the grave! Those silk-like cords which convey sensation to the brain, and volition from that organ to the muscles or other parts, evince no cognizable change or motion in the performance of these two opposite functions. They may also be thrilled with exquisite pleasure, or tortured with excruciating pain, and still exhibit no visible indication of either, in their structure.

These remarks have been suggested by a consideration of one of the most painful chronic complaints to which the human frame is subject; and, although Tic Douloureux be of rare occurrence, still practitioners have sometimes the misfortune to meet with it, and to deplore the severe sufferings of the patient, and the inefficacy of medical treatment.

The great number of cases of this dreadful malady which have been published of late years, prove, that this complaint is on the increase, along with the host of other nervous affections. The general spread of intellectual excitement among all classes of society, as well as irregularity of living, in modern times, must necessarily injure the functions of the body, and this deterioration inevitably re-acts on the nervous system with a severe retaliation

From all that we have seen and read on the subject, we are inclined to view Tic Douloureux as, in far the greater number of cases, "a local affection possessing a constitutional origin, as defined by Dr. Palmer:" or at least intimately connected with a disturbance of the system. Mr. Abernethy states his belief, "that this disorder is as much constitutional as either gout or rheumatism." The high authority of Abernethy has been abundantly confirmed by the numerous instances now on record of the complete and permanent removal of the malady, by internal remedies alone.

The seat of this complaint is known to be usually confined to that portion of the nerves of the face, which pass through an aperture in the cheek bone, a little below the eye: in some instances it affects other and more distant nerves.

The disease commences with slight attacks of pain, and generally without any warning, though some patients feel, in the affected part, peculiar and inexplicable sensations preceding its approach: the patient, at the same time, enjoying a good or an indifferent state of health. The pain, however, soon becomes more acute and lancinating, shooting and darting along the various ramifications of the affected nerves; it generally continues from a quarter to half a minute, and seldom

exceeds the space of one minute. It returns at intervals more or less frequent; there being sometimes several paroxysms in a few minutes, and at other times there are intervals of from fifteen to thirty minutes or longer. There is no determinate period: we always find the utmost irregularity, even in the same patient.

The pains vary in their degree of intensity, at one time exciting the most piercing cries, and distracted writhings and motions in the afflicted patient, while at another they are more bearable. When at the acme of their violence, the parts affected are often convulsed, and sometimes various contortions and grimaces are observable.

The pain does not always confine itself to the seat of the disease, but darts rapidly to the neighbouring parts, like radii from a centre. The pains are more frequent during the day than in the night; and during conversation, than in silence; but most of all at the time of mastication, when the attacks are so violent, as to cause the patient to start up in a state little short of frenzy; and often to succeed each other with such rapidity, as to appear like one continued paroxysm.

Pains, said to resemble those of tic douloureux, are sometimes met with in other parts of the body. The nerves of the arm have been thus affected in some; while the leg has been the seat of the disease in others. There is a case of the upper, and another of the lower extremity, recorded in Dr. James Johnson's very valuable Medical Journal, for January 1820, and September 1821.

The only diseases with which tic douloureux can be confounded, are, rheumatism, hemicrania, and toothache. It may be distinguished from the first of these by a paroxysm being excited by the slightest touch, by the shortness of its duration, and the extreme violence of the pain. From hemicrania, it may be known by the circumstance of the pain in tic accurately following the ramification of the affected nerve. It may be distinguished from the toothache, by the shortness of the pain and the rapidity of its succession, and during the interval an entire freedom from all pain.

We are convinced that this disease arises from different causes in different individuals. It may depend on an inflammatory condition of the system, as has been proved by the modes of treatment that were successful. It may depend on organic diseases in the brain, where the origins of the nerves are pressed upon. Or, as is more commonly the case, it may arise from sympathetic irritation of an internal organ, as that of the inner surface of the stomach or intestines, at a great distance from the seat of the actual pain. It is evident that the treatment must be modified by this variety in the exciting cause of the complaint, and that no one specific can ever be

expected for the different species of the disease. The remedies usually employed by different practitioners have been, mercury, opium, belladonna, Fowler's solution of arsenic, and Peruvian bark. Among the internal remedies which have been employed against this severe affliction, we must not pass over the plan of the ingenious Abernethy,—alteratives and low diet. This has unquestionably, in many instances, given great relief, and in a few, we believe, effected a cure; but still, it was far from being even generally successful.

Before coming to the latest remedy,—the remedy of the day, (carbonate of iron,)—we may just glance at the principal external applications which have been tried in mitigation, or removal, of this painful malady.

Leeches, especially on the Continent, have been the most successful topical application; and where the disease depends on an inflammatory affection of the nerve or its covering, as we believe it often does, we can have no difficulty in accounting for the success of local bleeding; where the disease, on the other hand, has for its cause a constitutional derangement, (as it often has,) then local bleeding can do little good—nay, it may do positive harm. The same observations apply to blisters, and other powerful stimulants. In the *Gazette de Santé*, for September 1816, Dr. Barras relates a case where leeches, poultices, and issues, afforded no relief: but the application of moxa, at different periods, was attended with the happiest effects.

Mr. Beddingfield's excellent "Compendium of Medical Practice," contains a case of tic douloureux, cured by rubbing two scruples of the carbonate of lead, made into an ointment, on the pained part in the morning, an hour before the paroxysm was expected. This application was continued a month. This ingenious and successful experiment was made by one of Sir Astley Cooper's pupils.

About four years ago, Mr. Hutchinson, of Southwell, published a small pamphlet, containing several cases of this disease, cured, or relieved, by *carbonate of iron*, taken in large doses. As soon as that work appeared, the profession at large took the hint, and we have now ample testimonies by numerous practitioners in favour of this remedy. For this suggestion, Mr. Hutchinson is certainly entitled to the lasting gratitude of the profession, as well as of his fellow-creatures in general. The failure of the remedies usually employed to subdue the torments of tic, induced our author to try the different preparations of iron; and his investigations were attended with success. He observes, "that the carbonate of iron, though in general use, has been hitherto very inefficiently administered, in doses so minute as to preclude a possibility of much good effect being produced. I mean not to confine this

observation to the management of the tic douloureux, but to extend it to every case in which it is imagined that iron is to be useful. In proper and efficient doses, I hope to be able to demonstrate its valuable and highly curative powers."

Previous to the commencement of this remedy, the state of the patient's stomach and bowels should be inquired into; a gentle laxative should be ordered, and repeated, if circumstances require it. We should then direct from one scruple to one drachm of the carbonate of iron, two or three times a day. Sometimes the attack will not yield to the medicine for a considerable time, and in some instances it has been necessary to give eight scruples in four-and-twenty hours: but in general the pain is greatly diminished in a fortnight, and, pretty commonly, the amendment is complete in two or three months.

It is deemed advisable, now and then, to direct the patient to keep this medicine by him; and have recourse to it if the enemy threatens to return. The inconvenience attending this is comparatively trifling, when the real benefit is taken into the account. Should the medicine excite any uneasiness in the bowels, it may be necessary to add a few grains of aromatic powder, or ginger, to each dose of the iron. If it purges, it will be requisite to check it with opium; and if the bowels are not sufficiently soluble, they must be quickened by rhubarb, or castor oil.

We have now laid before our readers the history and the treatment of a dreadful malady, which is much more prevalent in our day, than it was in the time when this work was written. If we are instrumental to afford relief in one instance, our labour will be sufficiently recompensed: and should a perusal of this article be the means of enabling others to communicate an interesting discovery, how pleasing will be their reflection!

Pain is a greater evil than death, which (in one sense) is merely a negation both of pain and pleasure: and consequently, he who frees a human being from extraordinary suffering, is much more entitled to the civic crown, than he who merely saves the life of a citizen.—Ed.

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 any thing 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 humours 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 endeavour to lessen the flux of humours 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 exceeding 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 camomile-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 upon 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

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[* Perhaps no means have been found so efficacious for relieving pain in the teeth and gums, as a diligent use of warm water: the longer it is held in the mouth, the more beneficial it will be.—Ed.]

yarrow chewed, tobacco smoked or chewed, staves-acre, 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. If there be a hollow tooth, a small pill made of equal parts of camphire, oil of cloves, and opium, put into the hollow, is often beneficial.*

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. 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.

When the toothache returns periodically, and the pain chiefly affects the gums, it may be cured by the bark.

Electricity has likewise been recommended, and particular instruments have been invented for sending a shock through the affected tooth.

Keeping the teeth clean has no doubt a tendency to prevent the toothache. The best method of doing this is to wash them daily with salt and water, a decoction of the bark, or with cold water alone. All brushing and scraping of the teeth is dangerous, and, unless it be performed with great care, does mischief.

[* To prevent a return of the pain when it has ceased, the hole in the tooth should be widened within by a proper instrument, and then be stopped with leaf gold, or leaf lead, by which operation it may often be preserved for many years, without any further inconvenience to the person. But this operation, as well as extraction of the teeth, should always be performed by a professional dentist. We are of opinion, however, that removing teeth is much too common, and that due attention to the state of the stomach would frequently render this practice unnecessary. —Ed.]

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

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

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 morbific matter to the ear. This often happens in the decline of malignant fevers, and occasions deafness, which is generally reckoned a favourable symptom.

When the 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 upon pouring in oil.*

When the pain of the ear proceeds from inflammation, it must be treated like other topical inflammations, by a cooling regimen, and opening medicines. Bleeding at the beginning, either in the arm or jugular vein, or cupping in the neck, will be proper. The ear may likewise be fomented with steams of warm water; or flannel bags, filled with boiled mallows and camomile-flowers, may be applied to it warm; or bladders filled with warm milk and water. An exceedingly good method

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[* Where there is not actual inflammation present, no remedy will be so likely to afford relief, as filling the ear very often with tincture of opium and sweet oil, made warm.—Ed.]

of fomenting the ear is to apply it close to the mouth of a jug filled with warm water, or a strong decoction of camomile-flowers.

The patient's feet should be frequently bathed in lukewarm water, and he ought to take small doses of nitre and rhubarb, viz. a scruple of the former, and ten grains of the latter, three times a day. His drink may be whey, or decoction of barley and liquorice, with figs or raisins. The parts behind the ear ought frequently to be rubbed with camphorated oil, or a little of the volatile liniment, and a few drops of the camphorated spirit of wine may be put into the ear with wool or cotton. A blister behind the ear, if applied early, will sometimes remove this complaint.

When the inflammation cannot be discussed, a poultice of bread and milk, or roasted onions, may be applied to the ear, and frequently renewed, till the abscess breaks, or can be opened.* Afterwards the humours may be diverted from the part by gentle laxatives, blisters, or issues; but the discharge must not be suddenly dried up by any external application.

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 hypochondriac men of a sedentary and luxurious life. In such persons it often proves so extremely obstinate as to baffle all the powers of medicine.

When the pain of the stomach is most violent after eating, there is reason to suspect that it proceeds from some fault either in the digestion or the food. In this case, the patient ought to change his diet, till he finds what kind of food agrees best with his stomach, and should continue chiefly to use it. If a change of diet does not remove the complaint, the patient may take a gentle vomit, and afterwards a dose or two of rhubarb. He ought likewise to take an infusion of camomile-flowers, or some other stomachic bitter, either in wine or water.

[* When the inflammation cannot be discussed by these remedies, we would advise the plan of injecting warm fluids: annexing a pipe of ivory to an elastic gum bottle, and syringing, frequently and forcibly, a strong infusion of poppy-heads, or soap and water, blood-warm, has very generally succeeded in removing the disease.—Ed.]

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 distension of the stomach after meals. This is a most deplorable disease, and is seldom thoroughly cured. In general, the patient ought to avoid all windy diet, and every thing that sours 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 pease, though that grain is generally supposed to be of a windy nature.*

This complaint may likewise be greatly relieved by labour, especially digging, reaping, mowing, or any kind of active employment by which the bowels are alternately compressed and dilated. The most obstinate case of this kind I ever met with was in a person of a sedentary occupation, whom I advised, after he had tried every kind of medicine in vain, to turn gardener; which he did, and has ever since enjoyed good health.

When a pain of the stomach is occasioned by the swallowing of acrid or poisonous substances, they must be discharged by vomit: this may be excited by butter, oils, or other soft things, which sheath and defend the stomach from the acrimony of its contents.

When a pain of the stomach proceeds from a translation of gouty matter, warm cordials are necessary, as generous wines, French brandy, &c. Some have drank a whole bottle of brandy or rum in this case in a few hours, without being in the least intoxicated, or even feeling the stomach warmed by it. It is impossible to ascertain the quantity necessary upon these occasions. This must be left to the feelings and discretion of the patient. The safer way however is, not to go too far. When there is an inclination to vomit, it may be promoted by drinking an infusion of camomile-flowers, or *carduus benedictus*.

If a pain of the stomach proceeds 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

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* These are prepared by steeping or soaking pease in water, and afterwards drying them in a pot or kiln till they burst. They may be used at pleasure.

destroyed, or expelled by such means as are recommended in the following section.

When the stomach is greatly relaxed, and the digestion bad, which often occasion flatulencies, the elixir of vitriol will be of singular service. Fifteen or twenty drops of it may be taken in a glass of wine or water twice or thrice a day.

Persons afflicted with flatulency are generally unhappy unless they be taking some purgative medicines; these, though they may give immediate ease, tend to weaken and relax the stomach and bowels, and consequently increase the disorder. 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 upon leather, to which, while warm, a drachm and a half, or two drachms, of powdered opium, may be added. It should be large enough to cover nearly the whole region of the stomach, and should be suffered to remain on as long as it will adhere.

CHAP. XL.

OF WORMS.

THESE are chiefly of three kinds, viz. the *tænia*, or tape-worm; the *teres*, or round and long worm; and the *ascarides*, or round and short worm. There are many other kinds of worms found in the human body; but as they proceed, in a great measure, from similar causes, have nearly the same symptoms, and require almost the same method of treatment as these already mentioned, we shall not spend time in enumerating them.

The tape-worm is white, very long, and full of joints. It is generally bred either in the stomach or small intestines. The round and long worm is likewise bred in the small guts, and

[* This stomachic tincture is certainly impregnated with the virtues of bark and rhubarb, but not to such a degree that it can be given in sufficient doses to act beneficially, without exhibiting more spirit than what is proper to be given as a medicine. Indeed, we are afraid that this and other bitter and tonic tinctures, as they are called, are with many *only an apology for dram-drinking*, and that the most certain effects they produce, are slight degrees of intoxication.—ED.]

sometimes in the stomach. The round and short worms commonly lodge in the *rectum*, or what is called the end gut, and occasion a disagreeable itching about the seat.

The long round worms occasion squeamishness, vomiting, a 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 perforate the intestines, and get into the cavity of the belly. The effects of the tape-worm are nearly the same with those of the long and round, but rather more violent.

Andry says, the following symptoms particularly attend the *solium*, which is a species of the tape-worm, viz. swoonings, privation of speech, and a voracious appetite. The round worms, called *ascarides*, besides an itching of the anus, cause swoonings, and tenesmus, or an inclination to go to stool.

Causes.—Worms may proceed from various causes; but they are seldom found except in weak and relaxed stomachs, where the digestion is bad. Sedentary persons are more liable to them than the active and laborious. Those who eat great quantities of unripe fruit, or who live much on raw herbs and roots, are generally subject to worms. There seems to be an hereditary disposition in some persons to this disease. I have often seen all the children of a family subject to worms of a particular kind. They seem likewise frequently to be owing to the nurse. Children of the same family nursed by one woman have often worms, when those nursed by another have none.

Symptoms.—The common symptoms of worms are, paleness of the countenance, and, at other times, an universal flushing of the face; itching of the nose; (this, however, is doubtful, as children pick their noses in all diseases;) starting, and grinding of the teeth in sleep; swelling of the upper lip; the appetite sometimes bad, at other times quite voracious; looseness; a sour or stinking breath; a hard swelled belly; great thirst; the urine frothy, and sometimes of a whitish colour; griping or colic pains; an involuntary discharge of *saliva*, especially when asleep; frequent pains of the side, with a dry cough, and unequal pulse; palpitations of the heart; swoonings; drowsiness cold sweats; palsy; epileptic fits, with many other unaccountable nervous symptoms, which were formerly attributed to witchcraft, or the influence of evil spirits. Small bodies in the excrements resembling melon or cucumber seeds are symptoms of the tape-worm. There is no certain symptom of worms but passing them.

I lately saw some very surprising effects of worms in a girl about five years of age, who used to lie for whole hours as if dead. She at last expired, and, upon opening her body, a number of the *teres*, or long round worms, where found in her

guts, which were considerably inflamed; and what anatomists call an *intus susceptio*, or involving of one part of the gut 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. Five-and-twenty or thirty grains of the former, with six or seven of the latter, mixed in syrup, may be taken early in the morning for a dose. It will be proper that the patient keep the house all day, and drink nothing cold. The dose may be repeated once or twice a week, for a fortnight or three weeks. On the intermediate days the patient may take a drachm of the powder 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 table-spoonful of common salt may be taken in a glass of red port wine thrice a day, or oftener if the stomach will bear it. But the more common form of using oil is in clysters. Oily clysters, sweetened with sugar or honey, are very efficacious in bringing away the short round worms called *ascarides*, and likewise the *teres*.

The Harrowgate water is an excellent medicine for expelling worms, especially the *ascarides*. As this water is impregnated with sulphur, we may hence infer, that sulphur alone must be a good medicine in this case, which is found to be a fact. Many practitioners give flour of sulphur in very large doses, and with great success. It should be made into an electuary with honey or treacle, and taken in such quantity as to purge the patient.‡

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* 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.

[‡ Dr. Rush, of Philadelphia, strongly recommends the carbonate of iron, in doses of five grains twice a day to a child of one year old; in-

Where Harrowgate water cannot be obtained, sea-water may be used, which is far from being a contemptible medicine in this case. If sea-water cannot be had, common salt dissolved in water may be drank. I have often seen this used by country nurses with very good effect. Some flour of sulphur may be taken over-night, and the salt-water in the morning.

But worms, though expelled, will soon breed again, if the stomach remain weak and relaxed; to prevent which, we would recommend the Peruvian bark. Half a drachm of bark in powder may be taken in a glass of red port wine three or four times a day, after the above medicines have been used. Lime-water is likewise good for this purpose, or a table-spoonful of the chalybeate wine, taken twice or thrice a day. Infusions or decoctions of bitter herbs may likewise be drank; as the infusion of tansy, water trefoil, camomile-flowers, tops of wormwood, the lesser centaury, &c.

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 æthiop'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

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creasing the dose according to the age and strength of the patient; exhibiting a purgative every fourth or fifth day, to carry the worms down, as they die: common salt is recommended by the same authority, as well as by the author, above. But the remedy that is now most in vogue of all others, especially for tape-worm, is spirit of turpentine: from half an ounce to an ounce may be given to a delicate adult, and twice that quantity where there is a strong constitution. The best vehicle for it appears to be milk. It may be taken early in the morning on an empty stomach. It acts very speedily on the bowels, as well as on the kidneys. It is proper to direct the patient to drink gruel during its effect. If small round worms are lodged in the rectum, as is frequently the case, there is no means perhaps so effectual as tobacco smoke or aloetic clysters.—Ed.]

vinegar, which corrects the medicine. The dose is a tea-spoonful at bed-time, and one or two next morning.

I have frequently known those big bellies, which in children are commonly reckoned a sign of worms, quite removed by giving them white soap in their pottage, or other food. Tansy, garlic, and rue, are all good against worms, and may be used various ways. We might here mention many other plants, both for external and internal use, as the cabbage bark, &c. but think the powder of tin, with æthiop'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, a glass of red wine after meals; as every thing that braces and strengthens the stomach, is good both for preventing and expelling these vermin.†

In order to prevent any mistake of what I have here said in favour of *solid* food, it may be proper to observe, that I only made use of that word in opposition to *slops* of every kind; not to advise parents to cram their children with meat, two or three times a day. This should only be allowed at dinner, and in moderate quantities, or it would create, instead of preventing, worms; for there is no substance in nature, which generates so many worms, as the flesh of animals when in a state of putrefaction. Meat, therefore, at the principal meal, should 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

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* A powder for the tape-worm resembling this, was long kept a secret on the continent; it was lately purchased by the French king, and will be found under the article *Powder*, in the Appendix.

† We think it necessary here to warn people of their danger who buy cakes, powders, and other worm medicines, at random, from quacks, and give them to their children without proper care. The principal ingredients in most of these medicines is mercury, which is never to be trifled with. I lately saw a shocking instance of the danger of this conduct. A girl, who had taken a dose of worm-powder, bought of a travelling quack, went out, and perhaps was so imprudent as to drink cold water during its operation: she immediately swelled, and died on the following day, with all the symptoms of having been poisoned.

such profusion. They promote the end in view, by keeping the body moderately open, without the aid of artificial physic. The ripe fruits of autumn produce the same effect; and, from their cooling, antiputrescent qualities, are as wholesome as the unripe are pernicious.

I also very earnestly conjure parents not to take the alarm at every imaginary symptom of worms, and directly run for drugs to the quack, or apothecary. They should first try the good effects of proper diet and regimen, and never have recourse to medicines till after unequivocal proofs of the nature of the complaint. The danger of advertised nostrums is sufficiently pointed out and exemplified in the preceding note.

CHAP. XLI.

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 colour. There is likewise a species of this disease called the Black Jaundice.

Causes.—The immediate cause of the jaundice is an obstruction of the bile. 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 colour, and the urine, as was observed above, is yellow. The breathing is difficult, and the patient complains of an unusual load or oppression on 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 hypochondriac symptoms, it generally proves fatal. The black jaundice is more dangerous than the yellow.

Regimen.—The diet should be cool, light, and diluting, consisting chiefly of ripe fruits and mild vegetables; as apples boiled or roasted, stewed prunes, preserved plums, boiled spinnage, &c. Veal or chicken broth, with light bread, are likewise very proper. Many have been cured by living almost wholly for some days on raw eggs. The drink should be buttermilk, whey sweetened with honey, or decoctions of cool opening vegetables; as marsh-mallow roots, with liquorice, &c.

The patient should take as much exercise as he can bear, either on horseback, or in a carriage; walking, running, and even jumping, are likewise proper, provided he can bear them without pain, and there be no symptoms of inflammation. Patients have been often cured of this disease by a long journey, after medicines 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 a 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 camomile-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.

Many dirty things are recommended for the cure of the jaundice; as lice, millepedes, &c. But these do more harm than good, as people trust to them, and neglect more valuable medicines. People always expect that such *things* should act as charms, and consequently seldom persist in the use of them. Vomits, purges, fomentations, and exercise, will sel-

dom fail to cure the jaundice when it is a simple disease; and when complicated with the dropsy, a schirrous 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.

CHAP. XLII.

OF THE DROPSY.

THE dropsy is a preternatural swelling of the whole body, or some part of it, occasioned by a collection of watery humour.

[* Our remedies must always be adapted to particular circumstances; if there is much pain and inflammation, we must meet the disease by means for allaying inflammation in general, as advised above. But if the disease assume a chronic form, the principal indication will be, to determine the bile down, after washing the stomach. Seidlitz powders will be found a valuable medicine in this disease, especially if there is sickness at the stomach. It may be exhibited three or four times a day.—ED.]

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 disposition. It may likewise proceed from drinking ardent spirits, or other strong liquors. It is true, almost to a proverb, that great drinkers die of a dropsy. The want of exercise is also a very common cause of the dropsy. Hence it is justly reckoned among the diseases of the sedentary. It often proceeds from excessive evacuations, as frequent and copious bleedings, strong purges often repeated, frequent salivations, &c. The sudden stoppage of customary or necessary evacuations, as the menses, the hæmorrhoids, 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, 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 ancles towards night, which for some time disappears in the morning. In the evening, the parts, if pressed with the finger, will pit. The swelling gradually ascends, and occupies the trunk of the body, the arms, and the head. Afterwards the breathing becomes difficult, the urine is in small quantity, and the thirst great; the body is bound, and 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 shews that the lungs are affected.

In an *ascites*, besides the above symptoms, there is a swelling of the belly, and often a fluctuation, which may be perceived by striking the belly on one side, and laying the palm of the hand on the opposite. This may be distinguished from a *tympany* by the weight of the swelling, as well as by the fluctuation. When the *anasarca* and *ascites* are combined, the case is very dangerous. Even a simple *ascites* seldom admits of a radical cure. Almost all that can be done, is, to let off the water by tapping, which seldom affords more than a temporary relief.

When the disease comes suddenly on, and the patient is young and strong, there is reason to hope for a cure, especially if medicine be given early. But if the patient be old, has led an irregular or a sedentary life, or if there be reason to suspect that the liver, lungs, or any of the viscera, are unsound, there is great reason to fear that the consequences will prove fatal.

Regimen.—The patient must abstain, as much as possible, from all drink, especially weak and watery liquors, and must quench his thirst with mustard-whey, or acids, as juice of lemons, oranges, sorrel, or such like. His aliment ought to be dry, of a stimulating and diuretic quality, as toasted bread, the flesh of birds, or other wild animals, roasted; pungent and aromatic vegetables, as garlic, mustard, onions, cresses, horse-radish, rocambole, shalot, &c. He may also eat sea-biscuit dipped in wine or a little brandy. This is not only nourishing, but tends to quench thirst. Some have been actually cured of a dropsy by a total abstinence from all liquids, and living entirely upon such things as are mentioned above. If the patient must have drink, the Spa-water, or Rhenish wine, with diuretic medicines infused in it, are the best.

Exercise is of the greatest importance in a dropsy. If the patient be able to walk, dig, or the like, he ought to continue these exercises as long as he can. If he be not able to walk or labour, he must ride on horseback, or in a carriage, and the more violent the motion so much the better, provided he can bear it. His bed ought to be hard, and the air of his apartments warm and dry. If he live in a damp country, he ought to be removed into a dry one, and, if possible, into a warmer 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 the flesh-brush; and he ought constantly to wear flannel next his skin.

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

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[* As the disease under consideration, whether in the chest, belly, or limbs, is generally accompanied with a quick pulse, a furred tongue, and other symptoms indicating a fever,—it has been proposed to cure it by repeated, but moderate bleedings: and this treatment, which is certainly novel, has been attended with the wished-for effect in a great number of instances, after every other method had failed.—Ed.]

the vomit, otherwise he destroys its effect. A cup or two of camomile-tea will be sufficient to work it off.

Between each vomit, on one of the intermediate days, the patient may take the following purge: Jalap in powder half a drachm, cream of tartar two drachms, calomel six grains. These may be made into a bolus with a little syrup of pale roses, and taken early in the morning. The less the patient drinks after it, the better. If he be much griped, he may now and then take a cup of chicken-broth.

The patient may likewise take, every night at bed-time, the following bolus: To four or five grains of camphor, add one grain of opium, and as much syrup of orange-peel as is sufficient to make them into a bolus. This will generally promote a gentle sweat, which should be encouraged by drinking now and then a small cup of wine-whey, with a tea-spoonful of the spirits of hartshorn in it. A tea-cupful of the following diuretic infusion may likewise be taken every four or five hours through the day: Take juniper-berries, mustard-seed, and horse-radish, of each half an ounce, ashes of broom half a pound; infuse them in a quart of Rhenish wine or strong ale for a few days, and afterwards strain off the liquor. Such as cannot take this infusion, may use the decoction of seneka-root, which is both diuretic and sudorific. I have known an obstinate *anasarca* cured by an infusion of the ashes of broom in wine.

The above course will often cure an incidental dropsy, if the constitution be good; but when the disease proceeds from a bad habit, or an unsound state of the viscera, strong purges and vomits are not to be ventured upon. In this case, the safer course is to palliate the symptoms by the use of such medicines as promote the secretions, and to support the patient's strength by warm and nourishing cordials.

The secretion of urine may be greatly promoted by nitre. Brookes says, he knew a young woman who was cured of a dropsy by taking a drachm of nitre every morning in a draught of ale, after she had been given over as incurable. The powder of squills is likewise a good diuretic. Six or eight grains of it, with a scruple of nitre, may be given twice a day in a glass of strong cinnamon-water. Ball says, a large spoonful of unbruised mustard-seed taken every night and morning, and drinking half an English pint of the decoction of the tops of green broom after it, has performed a cure after other powerful medicines had proved ineffectual.

I have sometimes seen good effects from cream of tartar in this disease. It promotes the discharges by stool and urine, and will at least palliate, if it does not perform a cure.*

[* We do not think that our author has said enough in favour of this remedy. It is a medicine that can do no harm in this desperate disease,

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.

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 incision 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 humours are vitiated, or the bowels spoiled, by long soaking in water, it can hardly be expected that any permanent relief will be procured.

The very name of an operation is dreadful to most people, and they wish to try every thing before they have recourse to it. This is the reason why tapping so seldom succeeds to our wish. I had a patient who was regularly tapped once a month for several years, and who used to eat her dinner as well after the operation as if nothing had happened. She died at last rather worn out by age than by disease.

After the evacuation of the water, the patient is to be put

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under any circumstances. When freely administered, it will in some cases produce an astonishing increase of urine with watery stools: and it frequently lessens the patient's size more quickly than the increase of urine would lead us to expect. Its salutary effect is sometimes visible in a day or two, at other times it may not appear for two or three weeks. —The spirit of mindererus, now called solution of acetated ammonia, in doses of one or two tablespoonfuls, with from twenty to sixty drops of antimonial wine, given three or four times a day, is another remedy deserving our notice here. Seidlitz powders, in full or half doses, prescribed two or three times in twenty-four hours, will be found a valuable auxiliary. But we are not to overlook the vomits, purgatives, and other means proposed in the preceding paragraphs.—Ed.]

[* It is highly important to distinguish *ascites* from the tumor of *pregnancy*.—Our best guide will be the countenance of the patient; the sense of fluctuation;—thirst, and general debility,—which indicate the former. The distinction is more difficult in cases of encysted dropsy: sound experience alone can enable us to decide in certain cases.

We have met with three cases illustrative of the above remark, in the practice of physicians who had thirty years' experience (or rather theory) in medicine, but who had paid little attention to the diseases of females, where the most serious result had nearly followed a mistake in their judgment on this point. We were consulted, just in time to protest against a treatment, and to avert an operation, that must necessarily have proved fatal to each party.—Ed.]

on a course of strengthening medicines: as, the Peruvian bark; the elixir of vitriol; warm aromatics, with a due proportion of rhubarb, infused in wine, and such like. His diet ought to be dry and nourishing, such as is recommended in the beginning of the chapter; and he should take as much exercise as he can bear without fatigue. He should wear flannel, or rather fleecy hosiery, next his skin, and make daily use of the flesh-brush.

We have classical authority of two thousand years standing to say, that the dropsy is an obstinate disease; not that the *incidental* dropsy is incurable, for I have often been so happy as to succeed in the treatment of it; but when the dropsy is accompanied with a scirrhous liver, or a worn-out constitution, very little is to be expected from medicine.

I had lately a singular instance of the efficacy of nitre in a case of dropsy. A young man, a cornet of dragoons, was dropsical all over, even his face not excepted. After several things had been tried without success, I shewed 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. XLIII.

OF GOUT AND RHEUMATISM.

THERE is no disease which shews the imperfection of medicine, or sets the advantages of temperance and exercise in a stronger light, than gout. Excess and idleness are the true sources from 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 an use of acidulated liquors; night-watching; grief or uneasiness of mind; an obstruction or defect of

[* The following beautiful passage from Sydenham will probably be duly appreciated. He remarks, that "gout destroys more rich than poor persons, more wise men than fools; which seems to demonstrate the justice and strict impartiality of Providence, who abundantly supplies those that want some of the conveniences of life with other advantages, and tempers its profusion to others with an equal mixture of evil." Since the period at which these sentiments were entertained, luxury has so much increased among the whole community, that the gout sometimes finds entrance into humble dwellings. And this will ever be apt to take place while the stomach is pampered, and bodily exercise is neglected.—ED.]

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 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 ancle or calf of the leg. This pain is accompanied with a sensation as if cold water were poured upon 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, gnawed, 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 twenty-four 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 accustomed to live high, this is not a proper time to retrench. In this case he must keep nearly to his usual diet, and should take frequently a cup of strong negus, or a glass of generous wine. Wine-whey is a very proper drink in this case, as it promotes the perspiration without greatly heating the patient. It will answer this purpose better if a tea-spoonful of *aromatic spirit of ammonia*, or spirits of hartshorn, be put into a cup of it twice a day. It will likewise be proper to give at bedtime a tea-spoonful of the volatile tincture of *guaiacum*, in a large draught of warm wine-whey. This will greatly promote perspiration through the night.

As the most safe and efficacious method of discharging the gouty matter is by perspiration, this ought to be kept up by all means, especially in the affected part. For this purpose, the leg and foot should be wrapt in soft flannel, fur, or wool. The last is most readily obtained, and seems to answer the purpose better than any thing else. The people of Lancashire look upon wool as a kind of specific in the gout. They wrap a great quantity of it about the leg and foot affected, and cover it with a skin of soft dressed leather. This they suffer to continue for eight or ten days, and sometimes for a fortnight or three weeks, or longer, if the pain does not cease. I never knew any external application answer so well in the gout. I have often seen it applied when the swelling and inflammation were very great, with violent pain, and have found all these symptoms relieved by it in a few days. The wool which they use is generally greased, and carded or combed. They choose

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[* The stomach is certainly the medium through which the gout is created. Excess of food, beyond the powers of healthy digestion, and the supply of blood for the useful purposes of the body, is the material foundation of the disease. It is therefore, necessary to pay close attention to this subject, both in averting, and in our efforts to relieve this disease.—Although we agree with the author, that no medicine is yet found that will cure the gout, except the cure of quacks and nostrum-mongers, who cure their patients by sending them from this world into another; we, nevertheless, think that a threatened attack may be averted, or, if not, the subsequent paroxysm rendered milder, by the following means: viz. *general bleeding*, if the system is plethoric; or if inflammatory symptoms are confined to particular parts, then draw blood by a large lot of leeches from thence: if the stomach indicates disorder, it will be proper to prescribe an emetic of ipecacuanha; but our surest method to afford relief is, to move the bowels pretty freely by calomel, Epsom salts, and repeated doses of magnesia in ginger tea.—ED.]

the softest which can be had, and seldom or never remove it till the fit be entirely gone off.

The patient ought likewise to be kept quiet and easy during the fit. Every thing that affects the mind disturbs the paroxysm, and tends to throw the gout upon the nobler parts. All external applications that repel the matter are to be avoided as death. They 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 any thing that promises immediate ease, and even hazard life itself for a temporary relief. This is the true reason why so many infallible remedies have been proposed for the gout, and why such numbers have lost their lives by the use of them. 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 upon 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.

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.

[* It is proposed, by a late writer on gout, to bathe the affected limb with a tepid fluid, composed of one part of spirit of wine and three parts of camphor mixture: the same purpose will be equally attained by the application of equal parts of British brandy and water, made, as he says, "agreeably lukewarm," and kept renewed with folds of soft linen.—Ed.]

After the fit is over, the patient ought to take a gentle dose or two of the bitter tincture of rhubarb, or some other warm stomachic purge. He should also drink a weak infusion of stomachic bitters in small wine or ale, as the Peruvian bark, with cinnamon, Virginian snake-root, and orange-peel. The diet at this time should be light, but nourishing, and gentle exercise ought to be taken on horseback, or in a carriage.

Out of the fit, it is in the patient's power to do many things towards preventing a return of the disorder, or rendering the fit, if it should return, less severe. This, however, is not to be attempted by medicine. I have frequently known the gout kept off for several years by the Peruvian bark and other astringent medicines; but in all the cases where I had occasion to see this tried, the persons died suddenly, and to all appearance for want of a regular fit of the gout. One would be apt, from hence, to conclude, that a fit of the gout, to some constitutions, in the decline of life, is rather salutary than hurtful.

Though it may be dangerous to stop a fit of the gout by medicine, yet if the constitution can be so changed by diet and exercise, as to lessen or totally prevent its return, there certainly can be no danger in following such a course. It is well known that the whole habit may be so altered by a proper regimen, as quite to eradicate this disease; and those only who have sufficient resolution to persist in such a course have reason to expect a cure.*

The course which we would recommend for preventing the gout, is as follows: In the first place, *universal temperance.* In the next place, *sufficient exercise.*† By this, we do not mean sauntering about in an indolent manner, but labour, sweat, and toil. These only can render the humours wholesome, and keep them so. Going early to bed, and rising betimes, are also of great importance. It is likewise proper to avoid night studies, and intense thinking. The supper should be light, and taken early. The use of milk, gradually increased till it becomes the principal part of diet, is particularly recommended. All strong liquors, especially generous wines and sour punch, are to be avoided.

We would likewise recommend some doses of magnesia and rhubarb to be taken every spring and autumn; and afterwards

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[* Some persons much disposed to gout, who have been reduced to poverty, and obliged to work hard, and use a low diet, have been cured by it; which clearly demonstrates the efficacy of exercise, temperance, and spare diet, as recommended by the author in the first part of this work.—Ed.]

† Some make a secret of curing the gout by *muscular exercise.* This secret, however, is as old as Celsus, who strongly recommends that mode of cure; and whoever will submit to it in the fullest extent, may expect to reap solid and permanent advantages.

a course of stomachic bitters, as tansey or water-trefoil tea, an infusion of gentian and camomile flowers, or a decoction of burdock-root, &c. Any of these, or an infusion of any wholesome bitter that is more agreeable to the patient, may be drank for two or three weeks in March and October, twice a day. An issue or perpetual blister has a great tendency to prevent the gout. If these were more generally used in the decline of life, they would not only often prevent the gout, but also other chronic maladies. Such as can afford to go to Bath, will find great benefit from bathing and drinking the water. It both promotes digestion, and invigorates the habit.

Though there is little room for medicine during a regular fit of the gout, yet when it leaves the extremities, and falls on some of the internal parts, proper applications to recall and fix it become absolutely necessary. When the gout affects the head, the pain of the joints ceases, and the swelling disappears, 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 ancles or calves of the legs. Bleeding in the feet or ancles 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 endeavour to promote a sweat by drinking warm liquors; and if he should be troubled with a nausea, or inclination to vomit, he may drink camomile-tea, or any thing that will make him vomit freely.

When the gout attacks the kidneys, and imitates gravel-pains, the patient ought to drink freely of a decoction of marsh-mallows, and to have the parts fomented with warm water. An emollient clyster ought likewise to be given, and afterwards an opiate. If the pain be very violent, twenty or thirty drops of laudanum may be taken in a cup of the decoction.

Persons who have had the gout should be very attentive to

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* Æther is found to be an efficacious remedy in this case.

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 upon some of the more noble parts.

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, viz. an obstructed perspiration, the immoderate use of strong liquors, and the like. Sudden changes of the weather, and all quick transitions from heat to cold, are very apt to occasion the rheumatism. The most extraordinary case of the rheumatism that I ever saw, where almost every joint of the body was distorted, was a man who used to work one part of the day by the fire, and the other part of it in the water. Very obstinate rheumatisms have likewise been brought on by persons not accustomed to it, allowing their feet to continue long wet. The same effects are often produced by wet clothes, damp beds, sitting or lying on the damp ground, travelling in the night, &c.

The rheumatism may likewise be occasioned by excessive evacuations, or the stoppage of customary discharges. It is often the effect of chronic diseases, which vitiate the humours, as the scurvy, the *lues venerea*, obstinate autumnal agues, &c.

The rheumatism prevails in cold, damp, marshy countries. It is most common among the poorer sort of peasants, who are ill-clothed, live in low damp houses, and eat coarse and unwholesome food, which contains but little nourishment, and is not easily digested.

Symptoms.—The *acute* rheumatism commonly begins with weariness, shivering, a quick pulse, restlessness, thirst, and other symptoms of fever. Afterwards the patient complains of flying pains, which are increased by the least motion. These at length fix in the joints, which are often affected with

swelling and inflammation. If blood be let in this disease, it has generally the same appearance as in the pleurisy.

In this kind of rheumatism the treatment of the patient is nearly the same as in an acute or inflammatory fever.* If he be young and strong, bleeding is necessary, which may be repeated according to the exigencies of the case. The body ought likewise to be kept open by emollient clysters, or cool opening liquors; as, decoctions of tamarinds, cream of tartar, whey, senna-tea, and the like. The diet should be light, and in small quantity, consisting chiefly of roasted apples, groat-gruel, or weak chicken-broth. After the feverish symptoms have abated, if the pain still continues, the patient must keep his bed, and take such things as promote perspiration; as wine-whey, with *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 exceeding good effect. The patient may either be put into a bath of warm water, or have cloths wrung out of it applied to the parts affected. Great care must be taken that he do not catch cold after bathing.

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

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[* In the *acute* rheumatism, the cure is to be attempted by, 1. Bleeding, either *general*, from the arm, if there be much fever; or *local*, by the repeated application of leeches to the parts, as they are successively attacked: 2. By uniting purgative with antimonial remedies, nitre, and the other neutral salts: 3. By the use of bark in cases of remission, and by the outward application of vinegar, or the lotion proposed in the gout.—In the *chronic* rheumatism, the cure should be conducted, 1. By guaiacum, and spirit of ammonia, either taken internally, or externally applied: 2. By external warmth, dry friction, and electricity: 3. By mercurial alteratives, cautiously administered: 4. By the temperate and warm bath, such as those of Buxton and Bath, preparatory to the use of sea-bathing: 5. By blisters, stimulating liniments, as that made with emetic tartar, (see Appendix) or the application of moxa.

In the above note, as in many others in this work, we have condensed the modern practical remedies into one view.—Ed.]

knew a person subject to this disease, who could never be cured by any other method but a diet of whey and bread." He likewise says, "That cream of tartar in water-gruel, taken for several days, will ease rheumatic pains considerably." This I have often experienced, but found it always more efficacious when joined with gum-guaiacum, as already directed. In this case the patient may take the dose formerly mentioned twice a day, and likewise a tea-spoonful of the volatile tincture of gum-guaiacum at bedtime in wine-whey.

This course may be continued for a week, or longer, if the case proves obstinate, and the patient's strength will permit. It ought then to be omitted for a few days, and repeated again. At the same time, leeches or a blistering-plaster may be applied to the part affected. What I have generally found answer better than either of these, in obstinate fixed rheumatic pains, is the *warm plaster*.* I have likewise known a plaster of Burgundy pitch, worn for some time on the part affected, give great relief in rheumatic pains. My ingenious friend, Dr. Alexander, of Edinburgh, says, he has frequently cured very obstinate rheumatic pains by rubbing the parts affected with tincture of cantharides. When the common tincture did not succeed, he used it of a double or treble strength. Cupping upon the part affected is likewise often very beneficial, and so is the application of leeches.

Though this disease may not seem to yield to medicines for some time, yet they ought still to be persisted in. Persons who are subject to frequent returns of the rheumatism, will often find their account in using medicines, whether they be immediately affected with the disease or not. The chronic rheumatism is similar to the gout in this respect, that the most proper time for using medicines to extirpate it, is when the patient is most free from the disorder.

To those who can afford the expense, I would recommend the warm baths of Buxton or Matlock in Derbyshire. These have often, to my knowledge, cured very obstinate rheumatisms, and are always safe either in or out of the fit. When the rheumatism is complicated with scorbutic complaints, which is not seldom the case, the Harrowgate waters, and those of Moffat, are proper. They should both be drank, and used as a warm bath.

There are several of our own domestic plants which may be used with advantage in the rheumatism. One of the best is the *white mustard*. A table-spoonful of the seed of this plant may be taken twice or thrice a day, in a glass of water or small wine. The water trefoil is likewise of great use in this complaint. It may be infused in wine or ale, or drank in

* See Appendix, *Warm Plaster*.

form of tea. The ground-ivy, camomile, and several other bitters, are also beneficial, and may be used in the same manner. No benefit, however, is to be expected from these, unless they be taken for a considerable time. Excellent medicines are often despised in this disease, because they do not perform an immediate cure; whereas nothing would be more certain than their effect, were they duly persisted in. Want of perseverance in the use of medicines is one reason why chronic diseases are so seldom cured.

Cold-bathing, especially in salt water, often cures the rheumatism. We would also recommend exercise, and wearing flannel next the skin. Issues are likewise very proper, especially in chronic cases. If the pain affects the shoulders, an issue may be made in the arm; but if it affects the loins, it should be put into the leg or thigh.

Persons afflicted with the scurvy are very subject to rheumatic complaints. The best medicines in this case are bitters and mild purgatives. These may either be taken separately or together, as the patient inclines. An ounce of Peruvian bark, and half an ounce of rhubarb in powder, may be infused in a bottle of wine; and one, two, or three wine-glasses of it taken daily, as shall be found necessary for keeping the body gently open. In cases where the bark itself proves sufficiently purgative, the rhubarb may be omitted.

Such as are subject to frequent attacks of the rheumatism ought to make choice of a dry, warm situation, to avoid the night-air, wet clothes, and wet feet, as much as possible. Their clothing should be warm, and they should wear flannel next their skin, and make frequent use of the flesh-brush.

One of the best articles of dress, not only for the prevention of the rheumatism, but for powerful co-operation in its cure, is fleecy hosiery. A medical friend of mine, of long experience and much practice in the isle of Ely, assured me, that the introduction of that manufacture had prevented more rheumatisms, colds, and agues, than all the medicines which had ever been used there. Such of the inhabitants of marshy countries as are in easy circumstances, could not, perhaps, direct their charity and humanity to a better object, than to the supplying of their poor neighbours with so cheap and simple a preservative. I have even myself experienced the good effects of such warm covering in the rheumatism, to which I was very subject about thirty years ago; but have never experienced any attack of it since I took to warm clothing, and particularly fleecy hosiery worn next the skin.

CHAP. XLIV.

OF THE SCURVY.

THIS disease prevails chiefly in cold northern countries, especially in low damp situations, near large marshes, or great quantities of stagnating water. Sedentary people, of a dull melancholy disposition, are most subject to it. It proves often fatal to sailors on long voyages, particularly in ships that are not properly ventilated, have many people on board, or where cleanliness is neglected.

It is not necessary to mention the different species into which this disease has been divided, as they differ from one another chiefly in degree. What is called the *land scurvy*, however, is seldom attended with those highly putrid symptoms which appear in patients who have been long at sea, and which, we presume, are rather owing to confined air, want of exercise, and the unwholesome food eaten by sailors on long voyages, than to any specific difference in the disease.

CAUSES.—The scurvy is occasioned by cold moist air; by the long use of salted or smoke-dried provisions, or any kind of food that is hard of digestion, and affords little nourishment. It may also proceed from the suppression of customary evacuations; as the *menses*, the hæmorrhoidal flux, &c. It is sometimes owing to an hereditary taint, in which case a very small cause will excite the latent disorder. Grief, fear, and depressing passions, have a great tendency both to excite and aggravate this disease. The same observation holds with regard to neglect of cleanliness; bad clothing; the want of proper exercise; confined air; unwholesome food; or any disease which greatly weakens the body, or vitiates the humours.

SYMPTOMS.—This disease may be known by unusual weariness, heaviness, and difficulty of breathing, especially after motion; rottenness of the gums, which are apt to bleed on the slightest touch; a stinking breath; frequent bleeding at the nose; crackling of the joints; difficulty of walking; sometimes a swelling and sometimes a falling away of the legs, on which there are livid, yellow, or violet-coloured spots; the face is generally of a pale or leaden colour. As the disease advances, other symptoms come on; as rottenness of the teeth, hæmorrhages, or discharges of blood from different parts of the body, foul obstinate ulcers, pains in various parts, especially about the breast, dry scaly eruptions all over the body, &c. At last, a wasting or hectic fever comes on, and the miserable patient is often carried off by a dysentery, a diarrhœa, a dropsy, the palsy, fainting-fits, or a mortification of some of the bowels.

CURE.—We know of no way of curing this disease but by

pursuing a plan directly opposite to that which brings it on. It proceeds from a vitiated state of the humours, occasioned by errors in diet, air, or exercise; and this cannot be removed but by a proper attention to these important articles.

If the patient has been obliged to breathe a cold, damp, or confined air, he should be removed, as soon as possible, to a dry, open, and moderately warm one. If there is reason to believe that the disease proceeds from a sedentary life, or depressing passions, as grief, fear, &c. the patient must take daily as much exercise in the open air as he can bear, and his mind should be diverted by cheerful company and other amusements. Nothing has a greater tendency either to prevent or remove this disease, than constant cheerfulness and good humour. But this, alas! is seldom the lot of persons afflicted with the scurvy; they are generally surly, peevish, and morose.*

When the scurvy has been brought on by a long use of salted provisions, the proper medicine is a diet consisting chiefly of fresh vegetables; as oranges, apples, lemons, limes, tamarinds, water-cresses, scurvy-grass, brook-lime, &c. The use of these, with milk, pot-herbs, new bread, and fresh beer or cider, will seldom fail to remove 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 muriatic acid.

These things, however, will more certainly prevent than cure the scurvy, for which reason sea-faring people, especially in long voyages, ought to lay in plenty of them. Cabbages, onions, gooseberries, and many other vegetables, may be kept a long time by pickling, preserving, &c. and when these fail, the chemical acids recommended above, which will keep for any length of time, may be used. We have reason to believe,

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[* In every affection of the skin, it will be advisable to wash the body occasionally with tepid water. Where the skin is dry and parched, our intentions will be promoted by directing the patient to drink bland liquids rather plentifully, (say, decoction of the woods, or even barley-water,) and giving from five to ten grains of the compound powder of ipecacuanha, at night. For those painful attacks, usually termed scorbutic eruptions, that rise often without any very obvious cause, that chiefly depend on the habit of the body, and make their appearance at stated intervals in painful ulcerations of the skin, producing a discharge of lymph, and an abundant desquamation,—in addition to the above means, we may order small doses of carbonate of soda, and Epsom salts largely diluted, according to the *method employed at Cheltenham*, with very good effect. Warm sea-bathing is often beneficial.—Ed.]

if ships were well ventilated, had got store of fruits, greens, cider, &c. laid in, and if proper regard were paid to cleanliness and warmth, that sailors would be the most healthy people in the world, and would seldom suffer either from the scurvy or putrid fevers, which are so fatal to that useful class of men: but it is too much the temper of such people to despise all precaution; they will not think of any calamity till it overtakes them, when it is too late to ward off the blow.

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.*

I have often seen very extraordinary effects in the land-scurvy from a milk-diet. This preparation of nature is a mixture of animal and vegetable properties, which of all others is the most fit for restoring a decayed constitution, and removing that particular acrimony of the humours, which seems to constitute the very essence of the scurvy and many other diseases. But people despire this wholesome and nourishing food, because it is cheap, and devour with greediness flesh and fermented liquors, while milk is only deemed fit for their hogs.

The most proper drink in the scurvy is whey or buttermilk. When these cannot be had, sound cider, perry, or spruce-beer, may be used. Wort has likewise been found to be a proper drink in the scurvy, and may be used at sea, as malt will keep during the longest voyage. A decoction of the tops of the spruce-fir is likewise proper. It may be drank in the quantity of an English pint twice a day. Tar-water may be used for the same purpose, or decoctions of any of the mild mucilaginous

* Every body knows how much easier it is to prevent than to cure any disease; but this is particularly true with respect to the scurvy. I have therefore recommended the most assured means of preserving our seamen from its formidable attacks. Vegetable and mineral acids are certainly the best correctives of the acrimony occasioned by the long use of salted provisions. These are one of the chief causes of the scurvy, not only at sea, but on land also, where salted and smoke-dried meats are a favourite and very customary article of food. It appears from the reports of modern travellers, that the scurvy is almost unknown to the natives of Canada, though they live entirely on animal food, but not salted; while the use of the latter never fails to produce the scurvy. Would it not then be worth while to make various experiments for preserving meat at sea without salt? Surely the resources of human invention are not exhausted. The absorbent and anti-putrescent 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.

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 carred off by frequently sucking a little of the juice of a bitter orange or lemon. When the disease affects the gums only, this practice, if continued for some time, will generally carry it off. We would, however, recommend the bitter orange as greatly preferable to lemon; it seems to be as good a medicine, and is not near so hurtful to the stomach. Perhaps our own sorrel may be little inferior to either of them.

All kinds of salad are good in the scurvy, and ought to be eaten very plentifully, as spinage, lettuce, parsley, celery, endive, radish, dandelion, &c. It is amazing to see how soon fresh vegetables in the spring cure the brute animals of any scab or foulness which is upon their skins. It is reasonable to suppose that their effects would be as great upon the human species, were they used in proper quantity for a sufficient length of time.

I have sometimes seen good effects in scorbutic complaints of very long standing, from the use of a decoction of the roots of water-dock. It is usually made by boiling a pound of 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 large 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 akin to the scurvy. Perhaps its appearing so seldom now, may be owing to the inhabitants of

Britain eating more vegetable food than formerly, living more upon tea and other diluting diet, using less salted meat, being more cleanly, better lodged and clothed, &c.—For the cure of this disease we would recommend the same course of diet and medicine as in the scurvy.

I have met with very few cases of real leprosy in the course of my practice. The dry scaly eruptions all over the body, which are often the effects of the scurvy, are very liable to be considered as leprous symptoms, and certainly resemble them very much. But no evil can arise even from mistake in this particular, as the same alterative plan, which is advisable in the scurvy, will be generally found efficacious in the leprosy. Perhaps in the latter complaint, we ought to lay a greater stress, if possible, on the benefit of good air, and of frequent changes of the linen worn next the skin. What has been peculiarly called the disease of uncleanliness, 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, infection, a scrofulous nurse, &c. Children who have the misfortune to be born of sickly parents, whose constitutions have been greatly injured by the pox, or other chronic diseases, are apt to be affected by the scrofula. It may likewise proceed from such diseases as weaken the habit or vitiate the humours, as the small-pox, measles, &c. External injuries, as blows, bruises, and the like, sometimes produce scrofulous ulcers; but we have reason to believe, when this happens, that there has been a predisposition in the habit to this disease. In short, whatever tends to vitiate the humours, or relax the solids, paves the way to the scrofula; as, the want of proper exercise, too much heat or cold, confined air, unwholesome food, bad water, the long use of poor, weak, watery aliments, the neglect of cleanliness, &c. Nothing tends more to induce

this disease in children than allowing them to continue long wet.*

Symptoms.—At first, small knots appear under the chin, or behind the ears, which gradually increase in number and size, till they form one large hard tumor. This often continues for a long time without breaking, and when it does break, it only discharges a thin *sanies*, or watery humour. Other parts of the body are likewise liable to its attack, as the arm-pits, groins, feet, hands, eyes, 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 upon the feet and hands with swelling, and little or no redness, are of the scrofulous kind. They seldom discharge good matter, and are exceedingly difficult to cure. The *white swellings* of the joints seem likewise to be of this kind. They are with difficulty brought to a suppuration, and when opened they only discharge a thin ichor. There is not a more general symptom of the scrofula than a swelling of the upper lip and nose. It sometimes begins in a toe or finger, which continues long swelled, with no great degree of pain, till the bone becomes carious.

Regimen.—As this disease proceeds, in a great measure, from relaxation, the diet ought to be generous and nourishing, but at the same time light and of easy digestion; as, well-fermented bread made of sound grain, the flesh and broth of young animals, with now and then a glass of generous wine, or good ale. The air ought to be open, dry, and not too cold, and the patient should take as much exercise as he can bear. This is of the utmost importance. Children who have sufficient exercise are seldom troubled with the scrofula.

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

* The scrofula, as well as the rickets, is found to prevail in large manufacturing towns, where people live gross, and lead sedentary lives.

of quacks and old women often gain applause when they deserve none.

There is nothing more pernicious than the custom of plying children in the scrofula with strong purgative medicines. People imagine it proceeds from humours which must be purged off, without considering that these purgatives increase the debility and aggravate the disease. It has indeed been found, that keeping the body gently open for some time, especially with sea-water, has a good effect; but this should only be given in gross habits, and in such quantity as to procure one, or at most two stools every day.*

Bathing in 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 nce of Peruvian bark and a drachm of Winter's bark, both grossly 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 table-spoonfuls, 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.

[* Physicians have recommended a variety of medicines for the cure of scrofula, and every one is partial to his own; but all who have been most successful in their treatment of this disease, have adopted such as coincide with these intentions. When air, exercise, and a generous diet, with sea-bathing, the Peruvian bark, soda, and carbonate of iron, (commonly called steel,) are ordered, it is obviously with a view to their tonic power; and when cathartics are prescribed, it is not for the purpose of exciting the action of the absorbents by consent, nor should it be with the idea that they will be conveyed (as erroneously imagined) as deobstruents to the glands affected, but that by moderately cleansing the organs of digestion, and the mouths of the intestinal absorbents, they may promote a plentiful supply of chyle, (pure nutriment,) which is the only rational way to attain the right end: but no means is so likely to succeed as wholesome air, exercise, proper diet, and sea-bathing. See the cautions enjoined in the chapter on "Sea-bathing."—Ed.]

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 *tabes;* the Peruvian bark, when there are running sores, and a degree of hectic fever; and the hemlock in old inveterate cases, approaching to the scirrhous or cancerous state. Either the extract or the fresh juice of this plant may be used. The dose may be small at first, and increased gradually as far as the stomach is able to bear it.

External applications are of little use. Before the 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 upon 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 humours of the body, in consequence of the absorption of their most noxious particles through the pores.

Washing children frequently, forms a necessary part of this plan. At first, lukewarm water is proper, as being best suited to the new-born infant, on account of the warm temperature

to which he had been accustomed in the womb, and on account of the delicacy of habit which he may have inherited from his parents. But the warmth of the water should be gradually diminished as the infant gains strength, till it can be used quite cold with great safety and benefit. The cold bath, so essential to the cure of the scrofula, operates with still greater certainty as a preventive. It braces and invigorates the frame, and thus directly counteracts one of the principal causes of the evil, which is relaxation. The whole body ought to be washed every morning, and the lower half every night, after which the child is to be instantly wiped dry, and wrapped up in a warm blanket, to guard against the danger of sudden cold, and to secure all the advantages of so salutary an operation.

My former arguments, in favour of light and loose clothing for children in general, acquire double force when there is the least reason to dread the scrofula. It is little short of murder to keep an infant of a delicate habit smothered in clothes, and panting in a sort of vapour-bath, caused by the noxious steams of its own body. The covering both by day and by night should be as light as is consistent with due warmth. The linen next the skin, which is always imbibing perspirable matter, must be changed often; and the same dress ought never to be kept on for more than twelve hours together.

Wholesome unconfined air, and frequent exercise, are grand preservatives from all diseases, but especially from the scrofula. It is not enough to select the most spacious and lofty apartment in the house for the nursery; children should be taken out into the fields every day, particularly about noon, unless the heat be intense, as the most salutary exhalations from the earth then abound, and the air is impregnated with the balmy essence of the sweetest plants and flowers. Cold and wet weather being deemed one of the exciting causes of the scrofula, any wanton exposure to it would be improper: though, even in this respect, less caution is necessary, if the use of the cold bath is 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 system, which they now stand in need of. A gross, full diet will certainly occasion humours and eruptions; but these are very different from the scrofula, and far more easily cured. A poverty of the blood, and a relaxation of the fibres, those sure attendants, if not the principal causes of the evil, require the most strengthening articles both of food and drink.

But I must reprobate, above all things, butter in every form, and other oily substances, which are so apt to turn rancid on the stomach, loading it with phlegm, relaxing and impeding its action, inducing a debility of the solids, and occasioning a great number of complaints, as well as glandular obstructions. One of the worst compositions, of which butter or fat always forms a part, is pastry. I really shudder, whenever I see a delicate woman, or a weak child, greedily devouring those palatable poisons. Let it be understood, that I include in this censure gingerbread, plumcakes, and all trash of the like kind. Indeed, a child of a scrofulous habit should never eat any preparation of flour, except plain, well-made, and well-baked bread.

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, legs, thighs, &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 best medicine yet known for the itch is sulphur, which 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 upon 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 every thing 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 patent 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 attended 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.†

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* 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.

[† The warm-bath, used at home or at the sea-side, will relieve, and very often cure, a great number of anomalous eruptions. Many diseases of the skin are termed itch, which may not be so in reality. But we venture to repeat, that warm bathing will be found universally salutary in all cutaneous affections. The other methods pointed out in the note

Much mischief is likewise done by the use of mercury in this disease. Some persons are so fool-hardy 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. XLV.

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; 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, hæmorrhoids, &c. the sudden retrocession of the gout, or striking in of eruptions, as the small-pox, mea-

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at page 370, should be adhered to. In the true itch, it must be admitted that the only certain remedy is sulphur.—ED.]

* 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 Ireland, 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?

sles, &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, esqecially 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, 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 per-

sons 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. This indeed requires the greatest expedition, as the disease often proves suddenly fatal. In a paroxysm or fit the body is generally bound; a purging clyster, with a solution of asafœtida, 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 tea-spoonful of the tincture of castor and of saffron mixed together in a cup of valerian-tea, twice or thrice a day. Sometimes a vomit has a very good effect, and snatches the patient, as it were, from the jaws of death. This, however, will be more safe after 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 asafœtida 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 tea-spoonful of the paregoric elixir twice a day. The Peruvian bark is sometimes found to be of use in this case. It

* After copious evacuations, large doses of æther 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 table-spoonfuls may be taken every three hours.

may be taken in substance, or infused in wine. In short, every thing 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 cow's 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 that account, it is always advisable 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 should take the earliest opportunity to give, a patient may lose his life before the doctor can be sent for, or any other medical advice or assistance procured.

[* The smoke of the stramonium, or thorn-apple, has lately been much employed for the cure, or rather for the relief, of asthma, especially that termed spasmodic asthma. The manner of using it is, by filling the bowl of a tobacco-pipe, as with tobacco, and inhaling the smoke. The saliva excited is directed to be swallowed, but its safety we should think doubtful. Smoking it, however, is deemed beneficial as a palliation; and the direct application of the remedy to the seat of the disease, is at least rational. We must caution our readers against the quack preparations said to contain stramonium. Smoking tobacco has also proved very beneficial: but, in the generality of cases, we cannot perhaps employ a more powerful and efficacious mean of relief, than the inhaling of warm steam frequently from an inhaler, or inverted funnel, as directed at pages 147 and 232.—Ed.]

CHAP. XLVI.

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 humours. The former is called a *sanguine*, and the latter a *serous* apoplexy. It may be occasioned by any thing that increases the circulation towards the brain, or prevents the return of the blood from the head: as, intense study; violent passions;* viewing objects for a long time obliquely; wearing any thing too tight about the neck; a rich and luxurious diet; suppression of urine; suffering the body to cool suddenly after having been greatly heated; continuing long in a warm or cold bath; the excessive use of spiceries, or high-seasoned food; excess of venery; the sudden striking in of any eruption; suffering issues, setons, &c. suddenly to dry up, or the stoppage of any customary evacuation; a mercurial salivation pushed too far, or suddenly checked by cold; wounds or bruises on the head; long exposure to excessive cold; poisonous exhalations, &c.

SYMPTOMS, and Method of Cure.—The usual forerunners of an apoplexy are giddiness, pain and swimming of the head; loss of memory; drowsiness; noise in the ears; the nightmare; a spontaneous flux of tears, and laborious respiration. When persons of an apoplectic make observe these symptoms, they have reason to fear the approach of a fit, and should endeavour to prevent it by bleeding, a slender diet, and opening medicines.

In the sanguine apoplexy, if the patient does not die suddenly, the countenance appears florid, the face is swelled or puffed up, and the blood-vessels, especially about the neck and temples, are turgid; the pulse beats strong; the eyes are pro-

* 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.

minent 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-tartar whey, or common whey with cream of tartar dissolved in it. Or he may take any cooling purge, as Epsom salts, manna dissolved in an infusion of senna, or the like. All spirits and other strong liquors are to be avoided. Even volatile salts held to the nose do mischief. Vomits, for the same reason, ought not to be given, or any thing that may increase the motion of the blood towards the head.

In the serous apoplexy, the symptoms are nearly the same, only the pulse is not so strong, the countenance is less florid, and the breathing less difficult. Bleeding is not so necessary here as in the former case. It may, however, generally be performed once with safety and advantage, but should not be repeated. The patient should be placed in the same posture as directed above, and should have blistering-plasters applied, and receive opening clysters in the same manner. Purges are here likewise necessary, and the patient may drink strong balm-tea. If he be inclined to sweat, it ought to be promoted by drinking small wine whey, or an infusion of carduus benedictus. A plentiful 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.*

[* When apoplexy arises from the reception of opium, vinous spirit, or other pernicious ingredient into the stomach, the object in view must

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 high-seasoned food. They ought likewise to guard against all violent passions, and to avoid the extremes of heat and cold. The head should be shaved, and daily washed with cold water. The feet ought to be kept warm, and never suffered to continue long wet. The body must be kept open either by food or medicine, and a little blood may be let every spring and fall. Exercise should by no means be neglected; but it ought to be taken in moderation. Nothing has a more happy effect in preventing an apoplexy than perpetual issues or setons; great care, however, must be taken not to suffer them to dry up, without opening others in their stead. Apoplectic persons ought never to go to rest with a full stomach, or to lie with their heads low, or wear any thing too 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 farther clogged by a fulness of the stomach. The low posture of the head not only favours, but seems to invite stagnation; and tight ligatures round the neck impede the return of the blood from the vessels of the brain, so that an apoplexy, not only very naturally, but almost inevitably, follows. Instead of being astonished at the number of those who go to bed in apparent health, and are found dead in the morning, we should consider it as a matter of much more surprise for a person of a plethoric habit, after unchecked indulgence in the pleasures of the table, to go to rest without any regard to the inclination of his head or the tightness of his collar, and ever to rise again.

CHAP. XLVII.

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

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be, to expel it as speedily as possible. This is sometimes effected by vomiting, but in some cases this is utterly impracticable: it will then be advisable to employ "Read's patent syringe," which is an apparatus of great importance, and recently invented. By its use, the contents of the stomach may be *completely evacuated in a few minutes.* This is more fully explained in our note to the chapter on poison, to which the reader is referred.—Ed.]

[* The most effectual means of obviating the return of apoplexy, is by moderate evacuations, diet of easy solubility, and setons or issues, which produce a discharge of pus from the neighbourhood of the head.—Ed.]

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 hypochondriac and hysteric persons, as it generates wind and other grievous symptoms. Some people, however, can bear costiveness to a great degree. I know persons who enjoy pretty good health, yet do not go to stool above once a week, and others not above once a fortnight. Indeed, I have heard of some who do not go above once a month.

Persons who are generally costive should live upon a moistening and laxative diet; as roasted or boiled apples, pears, stewed prunes, raisins, gruels with currants, butter, honey, sugar, and such like. Broths with spinage, leeks, and other soft pot-herbs, are likewise proper. Rye-bread, or that which is made of a mixture of wheat and rye together, ought to be eaten. No person troubled with costiveness should eat white bread alone, especially that which is made of fine flour. The best bread for keeping the body soluble is what in some parts of England they call *meslin*. It is made of a mixture of wheat and rye, and is very agreeable to those who are accustomed to it.

Costiveness is increased by keeping the body too warm, and by every thing that promotes the perspiration; as wearing flannel, lying too long in bed, &c. Intense thought and 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 spirits, austere and astringent wines, as port, claret, &c. ought to be avoided. Malt-liquor that is fine, and of a moderate strength, is very proper. Butter-milk, 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 that 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 and magnesia 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.

*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 any thing that palls the appetite, or is hard of digestion; the immoderate use of strong liquors, tea, tobacco, opium, &c.

The patient ought, if possible, to make choice of an open dry air; to take exercise daily on horseback or in a carriage; to rise betimes; and to avoid all intense thought. He should use a diet of easy digestion; and should avoid excessive heat and great fatigue. See chap. 2, 3, 4, 5.

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 shew 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 purging salts, may be taken.

[* Indigestion, or loss of appetite, is very rarely, if ever, a primary disease. The sympathy between the stomach and the other parts of the body is so universal, that it is almost impossible for disease to exist in any part, without the stomach being more or less affected by it. Its symptoms, such as heartburn, flatulent and acid eructations, constipation, &c. are very generally excited by disease in some other organ, and hence ought to be rather regarded as marking that disease, than as constituting a disease of the stomach itself. For the removal, therefore, of what are called symptoms of indigestion, instead of wasting our time and draining our patients, by the administration of palliative remedies, we must direct our whole attention to their exciting cause.—When the liver or kidneys are in fault, especially the former, as is frequently the case, we may direct five grains of blue pill and one grain of ipecacuanha to be taken at bed-time, every second or third night. If the bowels are torpid, a tea-spoonful or two of Epsom salts, or about the same quantity of common table salt, may be taken in the morning, dissolved in a tumbler of warm water. Seidlitz powders are often found beneficial. Avoiding the exciting cause, and attending to these means, together with the author's directions in reference to exercise and regimen, will commonly answer as good a purpose as the use of the same medicines at the *fountain head* in some of our fashionable places of resort.—Ed.]

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 tea-spoonfuls 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, amusements, &c.

Of the Heartburn.

What is commonly called the *heartburn*, is not a disease of that organ, but an uneasy sensation of heat or acrimony about the pit of the stomach, which is sometimes attended with anxiety, nausea, and vomiting.

It may proceed from debility of the stomach, indigestion, bile, the abounding of an acid in the stomach, &c. Persons who are liable to this complaint ought to avoid stale liquors, acids, windy or greasy aliments, and should never use violent exercise soon after a plentiful meal. I know many persons who never fail to have the heart-burn if they ride soon after dinner, provided they have drank ale, wine, or any fermented liquor; but are never troubled with it when they have drank rum or brandy and water without any sugar or acid.

When the heartburn proceeds from 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 camomile-tea and ginger, 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.

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 Eng-

lish quart of water, and a tea-cupful of it taken as often as is necessary. 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 the kind, are apt to lie in the intestines, and occasion obstructions. This powder is not disagreeable, and may be taken in a cup of tea, or a glass of mint-water. A large tea-spoonful is the usual dose; but it may be taken in a much greater quantity when there is occasion.

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, and especially cascarilla bark. These may either be chewed, or infused in wine, brandy, or other spirits; but these ought never to be used, unless they are absolutely necessary, as they are only drams in a dry form, and very pernicious to the stomach. One of the safest medicines of this kind is the tincture made by infusing an ounce of rhubarb, and a quarter of an ounce of the lesser cardamom seeds, in an English pint of brandy. After this has digested for two or three days, it ought to be strained, and four ounces of white sugar-candy added to it. It must stand to digest a second time till the sugar be dissolved. A table-spoonful of it may be taken occasionally for a dose.*

I have frequently known the heartburn cured, particularly in pregnant women, by chewing green tea. Two table-spoonfuls of what is called the milk of gum-ammoniac, taken once or twice a day, will sometimes cure the heart-burn.

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.

[* There may be cases where this or similar tinctures are admissible; but we are afraid that, with some, such medicines are only an apology for dram-drinking, and that the most certain effects they produce are slight degrees of intoxication.—Ed.]

CHAP. XLVIII.

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 different persons, or even the same person at different times. Proteus-like, they are continually changing shape; and upon every fresh attack, the patient thinks he feels symptoms which he never experienced before. Nor do they only affect the body; the mind likewise suffers, and is often thereby rendered extremely weak and peevish. The low spirits, timorousness, 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.—Every thing that tends to relax or weaken the body, disposes it to nervous diseases, as indolence, excessive venery, drinking too much tea, or other weak watery liquors warm, frequent bleeding, purging, vomiting, &c. Whatever hurts the digestion, or prevents the proper assimilation of the food, has likewise this effect; as long fasting, excess in eating or drinking, the use of windy, crude, or unwholesome aliments, an unfavourable posture of the body, &c.

Nervous disorders often proceed from intense application to study. Indeed, few studious persons are entirely free from them. Nor is this at all to be wondered at; intense thinking not only preys upon the spirits, but prevents the person from taking proper exercise, by which means the digestion is impaired, the nourishment prevented, the solids relaxed, and the whole mass of humours vitiated. Grief and disappointment likewise produce the same effects. I have known more nervous patients who dated the commencement of their disorders from the loss of a husband, a favourite child, or from some

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[* The subject of this chapter has furnished more matter for authors, and more profit for publishers, than any other in the book. When a young physician, who has abundance of theory, but no experience, is licensed to practise the healing art, he must think of advertising his talent. And how can this be more profoundly, or more obscurely performed, than by writing a bulky volume on "nervous disorders?" Many such learned effusions have appeared; some have been perused, and nearly all have been forgotten, since this work was composed, but without adding one grain of knowledge to the stock previously in hand. There is, however, one work of great merit, entitled, "A Treatise on the Liver, and Nervous System," by Dr. James Johnson, the able editor of the "Medico-Chirurgical Review," which we can strongly recommend to those who have time to peruse, and abilities to understand, it.—Ed.]

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 an useless and impracticable task to enumerate the whole. They generally begin with windy inflations or distentions of the stomach and intestines; the appetite and digestion are usually bad; yet sometimes there is an uncommon craving for food, and a quick digestion. The food often turns sour on the stomach; and the patient is troubled with vomiting of clear water, tough phlegm, or a blackish-coloured liquor resembling the grounds of coffee. Excruciating pains are often felt about the navel, attended with a rumbling or murmuring noise in the bowels. The body is sometimes loose, but more commonly bound, which occasions a retention of wind and great uneasiness.

The urine is sometimes in small quantity, at other times very copious, and quite clear. There is a great straitness 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 hiccup, frequent sighing, and a sense of suffocation, as if from a ball or lump in the throat; alternate fits of crying and convulsive laughing; the sleep is unsound, and seldom refreshing; and the patient is often troubled with the nightmare.

As the disease increases, the patient is molested with 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 labour under it, peevish, fickle, impatient, and apt to run from one physician to another; which is one reason why they seldom reap any benefit from medicine, as they have not sufficient resolution to persist in any one course till it has time to produce its proper effects. They are likewise apt to imagine that they labour under diseases from which they are quite free; and are

very angry if any one attempts to set them right, or laugh them out of their ridiculous notions.

Regimen.—Persons afflicted with nervous diseases ought never to fast long. Their food should be solid and nourishing, but of easy digestion. Fat meats and heavy sauces are hurtful. All excess should be carefully avoided. They ought never to eat more at a time than they can easily digest; and heavy suppers are to be avoided. If they feel themselves weak and faint between meals, they ought to eat a bit of bread, and drink a glass of wine. Though wine in excess enfeebles the body, and impairs the faculties of the mind, yet, taken in moderation, it strengthens the stomach, and promotes digestion. Wine and water is a very proper drink at meals; but if wine sours on the stomach, or the patient is much troubled with wind, brandy and water will answer better. Every thing that is windy or hard of digestion must be avoided. All weak and warm liquors are hurtful; as tea, coffee, punch, &c. People may find a temporary relief in the use of these, but they always increase the malady, as they weaken the stomach, and hurt digestion. Above all things, drams are to be avoided. Whatever immediate ease the patient may feel from the use of ardent spirits, they are sure to aggravate the malady, and prove certain poisons at last. These cautions are the more necessary, as most nervous people are peculiarly fond of tea and ardent spirits; to the use of which many of them fall victims.

Exercise in nervous disorders is superior to all medicines. Riding on horseback is generally esteemed the best, as it gives motion to the whole body, without fatiguing it. I have known some patients, however, with whom walking agreed better, and others who were most 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, upon every sudden change from

warm to cold weather. Rubbing the body frequently with a flesh-brush, or a coarse linen cloth, is likewise beneficial; as it promotes the circulation, perspiration, &c. Persons who have weak nerves ought to rise early, and take exercise before breakfast, as lying too long abed cannot fail to relax the solids. They ought likewise to be diverted, and to be kept as easy and cheerful as possible. There is not any thing which hurts the nervous system, or weakens the digestive powers, more than fear, grief, or anxiety.

MEDICINES.*—Though nervous diseases are seldom radically cured, yet their symptoms may sometimes be alleviated, and the patient's life rendered at least more comfortable by proper medicines.

When the patient is costive, he ought to take a little rhubarb, or some other mild purgative, and should never suffer his body to be long bound. All strong and violent purgatives are, however, to be avoided; as aloes, jalap, &c. I have generally seen an infusion of senna and rhubarb in brandy answer very well. This may be made of any strength, and taken in such quantity as the patient finds necessary. When the digestion is bad, or the stomach relaxed and weak, the infusion of Peruvian bark and other bitters may be used with advantage.

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

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[* Almost all that has been said in the preceding chapter will apply in the treatment of this afflictive disorder. We shall add three observations, to which we invite the attention of our readers: In the treatment of this disease it will be requisite, 1. To rouse the nervous energy by attending particularly to the *state of the mind.* General instructions are offered above: minute directions can only be adapted to the constitution, according to the age, strength, and habits of the patient. 2. To obviate the symptoms which are present, or which tend to aggravate the malady. This complaint should be treated by the feeling physician as of real existence; and from whatever cause the complaint may originate, it is his province and duty to employ his utmost skill to subdue it; but never to ruffle an irritable mind by unseasonable levity, or expose a morbid sensibility to insult and reproach. 3. To restore the tone of the digestive organs, by the means proposed in this and the preceding chapter. This cannot be readily accomplished, if the patient leads a fashionable life: a cure cannot be expected, unless the haunts and habits of dissipation are deserted: he who expects to get well, must shun luxurious tables, indolence, and late hours, and betake himself to those habits which are diametrically opposite to that which he has pursued. The mind, as well as the body, should be rationally and pleasingly occupied.—ED.]

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 regimen 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.†

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* 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 tea-spoonful in a glass of wine or water three or four times a day.

[† The author has certainly been too concise on this interesting subject: we shall, therefore, add a few observations.—INSANITY is distinguished into *melancholy* and *mania:* the first is insanity with sadness, the mind resting on one object; the second, accompanied with ungovernable fury. Over the link which binds mind to matter, a cloud, an almost impenetrable veil, is spread. This cannot be denied, even by those heartless philosophers who look on mind, or what is termed *soul*, to be merely a *function* of organized matter, which, like that of sight or hearing, ceases to exist when the organ itself is no longer capable of its office.

Certainly the wreck of reason presents a most distressing picture of human nature! The loss of this most invaluable prerogative sinks proud man as far below the level of other animals, in respect to helplessness, as its possession raises him over them, in respect to power and intellectual cultivation.—It is worthy of remark, that children, and persons of weak intellectual powers, are never subject to madness; for how can a person despair who cannot think? On this subject, Mr. Locke has a beautiful distinction. "The difference," he says, "between a madman and a fool is, that the former reasons justly from false data; and the latter erroneously from just data."—We have already remarked, that we are among those who believe that insanity is most commonly a *corporeal* disease, while at the same time we abjure materialism, and all the sophistry of craniology and phrenology, with which it is attempted to support its totter-

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

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ing base. The union of mind and matter is a mystery that will never be solved by man, and consequently the disquisitions on it will be interminable. "What is life?" is a question that has often been proposed. The celebrated Hunter candidly answers, "*Life* is a property we do not understand." Whoever wishes to be usefully informed on this interesting subject, must read and study the only true guide—the *Bible*.

We have often wondered how medical men, who daily witness the benign influence of genuine religion in mitigating the miseries, and disarming the terrors of death, can bring themselves to believe doctrines which are subversive of all those consolations which the afflicted derive from the belief of a wise superintending Deity, and another and a better world! We have frequently heard sensible believers in the truth of revelation express their astonishment at the admission of deists and materialists to the bedside of the sick; and we cannot but think that such wanton trifling with the feelings, the hopes, and the fears, of so large a portion of mankind, is little indicative of philanthropy in the breast, or of good sense in the head.

The propriety of these remarks will be manifest to all who reflect on the tendency of infidel opinions on the human mind, both in this country and in France. Dr. Esquirol, a late eminent French writer on mental diseases, avers, that scepticism and materialism have destroyed the happiness of the French people, and conduced to insanity and suicide. Now, if irreligion and scepticism are allowed to go abroad uncombated and unsubdued by the only sure remedy in this happy land, what may we expect; why, doubtless, the same consequences as in France! The only sure preventive for these evils is to employ all the means in our power to raise and improve the morals of the nation.

In a confirmed case of mental aberration, universal experience has decided on the utility of early removal and non-intercourse of the insane with their intimate friends and relatives. Yet it is to be lamented, (however amiable the feeling,) that when this afflictive misfortune comes home to our own doors, our sentiments and opinions are remodified, and reason is blinded by sympathy!

As there is often a combination of causes in the production of mental diseases, so must there also be a combination of remedial measures—*for there is no specific treatment of this or any other disease.* In no two individuals are the symptoms and character of the disease precisely alike. Hence, each particular case requires a thorough investigation, before the treatment adapted to it can be fairly laid down.

In reference to the *corporeal* treatment, the leading indications are, to diminish vascular or nervous excitement; to accomplish this, we may recommend the free abstraction of blood, but this is very seldom necessary; leeching the temples, or cupping the neck, will sometimes be found requisite. Purging is much more extensively applicable, with or without calomel; the latter is generally exceedingly useful. The application of cold to the

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 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 smoke-dried fish or flesh, ought to be avoided. All kinds of fruits that are wholesome may be eaten with advantage. Boerhaave gives an instance of a patient, who, by a long use of whey, water, and garden-fruit, recovered, after having evacuated a great quantity of black-coloured matter.

Strong liquors of every kind ought to be avoided as poison. The most proper drink is water, whey, or very small beer.

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head is materially serviceable under increased excitement, and some have advised it to the whole body: but in melancholic affections, there is no remedy so uniformly beneficial as the warm-bath. As to the *mental* means, two things should ever be borne in mind by those who have the treatment of the insane.—First, to inspire a certain degree of awe, from a conviction of superior power: secondly, to gain their confidence and affection, by the exercise of the most judicious benevolence. We have had lately a case of a powerful young gentleman which illustrates this. We were sent for in great haste to his house, and there we beheld the patient naked, and resolutely keeping two men, under the management of Mr. D—, (a man of talent and humanity,) at a distance. We directed them all to withdraw, and walked firmly forward, offering our hand and our assistance to the afflicted. He said, "*You* are my friend—I will put myself under *your* protection." He submitted to proper treatment, and is now perfectly cured.—Ed.]

[* The reader is referred to chap. 10, where this subject is fully discussed, and the best means for its removal proposed.—Ed.]

Tea and coffee are improper. If honey agrees with the patient, it may be eaten freely, or his drink may be sweetened with it. Infusions of balm-leaves, penny-royal, the roots of wild valerian, or the flowers of the lime-tree, may be drank freely, either by themselves, or sweetened with honey, as the patient shall choose.

The patient ought to take as much exercise in the open air as he can bear. This helps to dissolve the viscid humours, it removes obstructions, promotes the perspiration, and all the other secretions. Every kind of madness is attended with a diminished perspiration; all means ought, therefore, to be used to promote that necessary and salutary discharge. Nothing can have a more direct tendency to increase the disease, than confining the patient to a close apartment. Were he forced to ride or walk a certain number of miles every day, it would tend greatly to alleviate his disorder; but it would have still a better effect, if he were obliged to labour a piece of ground. By digging, hoeing, planting, sowing, &c. both the body and mind would be exercised. A long journey, or a voyage, especially towards a warmer climate, with agreeable companions, has often very happy effects. A plan of this kind, with a strict attention to diet, is a much more rational method of cure, than confining the patient within doors, and plying him with medicines.*

MEDICINE.—In the cure of this disease, particular attention must be paid to the mind. When the patient is in a low state, his mind ought to be soothed and diverted with variety of amusements, as entertaining stories, pastimes, music, &c. This seems to have been the method of curing melancholy among the Jews, as we learn from the story of king Saul; and indeed it is a very rational one. Nothing can remove diseases of the mind so effectually as applications to the mind itself, the most efficacious of which is music. The patient's company ought likewise to consist of such persons as are agreeable to him. People in this state are apt to conceive unaccountable aversions

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[* Travelling, under proper restraint, is certainly salutary in mental diseases, on the same principle as *hard labour* in gardens and fields is employed with so much success at Saragossa in Spain. It rouses the torpid functions of the abdominal viscera; conduces to sleep; improves the digestion and the secretions. There is no specific for insanity; but the preceding remarks contain the general indications of the moral treatment of mental maladies. They have for their final object, to force the maniac to live *within* himself, the melancholic *without* himself. "Ils ont pour but d'obliger le maniac à vivre *en lui-meme*, tandis qu'il faut faire vivre le melancholique *hors de lui*." The story of the Scotch farmer, who acquired great celebrity in the cure of the insane, will help to illustrate this point. He first took them out to walk with him in his fields, then contrived to quarrel with them, beat them soundly, and afterwards yoked them to the harrow, and made them work like horses!—ED.]

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 pulse is high, evacuations are necessary. In this case he must be bled, and have his body kept open by purging medicines, as manna, rhubarb, cream of tartar, or the soluble tartar. I have seen the last have very happy effects. It may be taken in the dose of half an ounce, dissolved in water-gruel, every day, for several weeks, or even for months, if necessary. More or less may be given, according as it operates. Vomits have likewise a good effect; but they must be pretty strong, otherwise they will not operate.

Whatever increases the 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.

Camphire and musk have likewise been used in this case with advantage. Ten or twelve grains of Camphire may be rubbed in a mortar with half of drachm of nitre, and taken twice a day, or oftener, if the stomach will bear it. If it will not sit upon the stomach in this form, it may be made into pills with gum asafœtida and Russian castor, and taken in the quantity above directed. If musk is to be administered, a scruple or twenty-five grains of it may be made into a bolus with a little honey or common syrup, and taken twice or thrice a day. The antimonial wine is by some extolled for the cure of madness; it may be taken in a dose of forty or fifty drops twice or thrice a day in a cup of tea. We do not mean that all these medicines should be administered at once; but whichever of them is given, must be duly persisted in, and where one fails another may be tried.

As it is very difficult to induce patients in this disease to take medicines, we shall mention a few outward applications which sometimes do good; the principal of these are issues, setons, and warm bathing. Issues may be made in any part of the body, but they generally have the best effect near the spine. The discharge from these may be greatly promoted by dressing them with the mild blistering ointment, and keeping

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[* Mr. Bakewell, of Spring Vale, has lately published a series of letters on mental affections, which are worthy of attentive perusal, in the "*Imperial Magazine*," a monthly journal of distinguished merit, and extensive circulation in the British empire.—Ed.]

what are commonly called the orrice-peas in them. The most proper place for a seton is between the shoulder-blades; and it ought to be placed upwards and downwards, or in the direction of the spine.

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 shews 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 any thing that prevents the regular exertion of the nervous power upon any particular muscle or part of the body. The occasional and predisposing causes are various: as, drunkenness; wounds of the brain, or spinal narrow; pressure upon the brain, or nerves; very cold or damp air; the suppression of customary evacuations; sudden fear; want of exercise; or whatever greatly relaxes the system, as drinking much tea* or coffee. The palsy may likewise proceed from wounds of the nerves themselves, from the poisonous fumes of metals or minerals, as mercury, lead, arsenic, &c.

In young persons of a full habit, the palsy must be treated in the same manner as the sanguine apoplexy. The patient must be bled, blistered, and have his body opened by sharp clysters or purgative medicines. But in old age, or when the disease proceeds from relaxation or debility, which is generally the case, a quite contrary course must be pursued. The diet must be warm and invigorating, seasoned with spicy and aromatic vegetables, as mustard, horse-radish, &c. The drink may be generous 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.

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* Many people imagine, that tea has no tendency to hurt the nerves, and that drinking the same quantity of warm water would be equally pernicious. This, however, seems to be a mistake. Many persons drink three or four cups of warm milk and water daily, without feeling any bad consequences; yet the same quantity of tea will make their hands shake for twenty-four hours. That tea affects the nerves, is likewise evident from its preventing sleep, occasioning giddiness, dimness of the sight, sickness, &c.

When this cannot be done, they may be rubbed with the volatile liniment. 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 any thing that makes the patient sneeze, is likewise of use. Some pretend to have found great benefit from rubbing the parts affected with nettles; but this does not seem to be any way preferable to blistering. If the tongue be affected, the patient may gargle his mouth frequently with brandy and mustard; or he may hold a bit of sugar in his mouth, wet with the compound spirits of lavender. The wild valerian-root is a very proper medicine in this case. It may either be taken in an infusion with sage-leaves, or half a drachm of it in powder may be given in a glass of wine three or four times a day. If the patient cannot use the valerian, he may take of aromatic spirit of ammonia, compound spirits of lavender, and tincture of castor, each half an ounce; mix these together, and take forty or fifty drops in a glass of wine three or four times a day. A table-spoonful of mustard-seed taken frequently is a very good medicine. The patient ought likewise to chew cinnamon-bark, ginger, or other warm spiceries.

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

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[* The tepid bath will be found of use in many instances of paralytic affection: the temperature of the water must be regulated by the feeling of the patient. In paralysis of the lower extremities, or even when the arms are more or less affected, we have witnessed the most decided good effects from the insertion of issues on each side of the spine. We have had a case very lately, where the disease was gradually yielding to this treatment, (assisted by internal means,) but the patient, through irresolution, has rejected the only remedy, and is now laid up a cripple for life.—Ed.]

reason to hope; but if it continues long, and returns frequently, the prospect is bad. It is a very unfavourable symptom when the patient is seized with the fits in his sleep.

Causes.—The epilepsy is sometimes hereditary. It may likewise proceed from blows, bruises, or wounds on the head; a collection of water, blood, or serous humours in the brain; a polypus; 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 small-pox, measles, &c.

Symptoms.—An epileptic fit is generally preceded by unusual weariness; pain of the head; dulness; giddiness; noise in the ears; dimness of 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 the hands; his eyes are distorted; he starts, and foams at the mouth; his extremities are bent or twisted various ways; he often discharges his urine and fœces 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 upon natural causes as any other malady; and its cure may often be effected by persisting in the use of proper means.

Regimen.—Epileptic patients ought, if possible, to breathe a pure air. Their diet should be light but nourishing. They ought to drink nothing strong, to avoid swine's flesh, waterfoul, and likewise all windy and oily vegetables, as cabbage, nuts, &c. They ought to keep themselves cheerful, carefully guarding against all violent passions, as anger, fear, excessive joy, and the like.

Exercise is likewise of great use; but the patient must be careful to avoid all extremes either of heat or cold, all dangerous situations, as standing upon precipices, riding, deep waters, and such like

MEDICINE.—The intentions of cure must vary according to the cause of the disease. If the patient be of a sanguine temperament, and there be reason to fear an obstruction in the brain, bleeding and other evacuations will be necessary. When the disease is occasioned by the stoppage of customary evacuations, these, if possible, must be restored; if this cannot be done, others may be substituted in their place. Issues or setons in this case have often a very good effect. When there is reason to believe that the disease proceeds from worms, proper medicines must be used to kill, or carry off, these vermin. When the disease proceeds from teething, the body should be kept open by emollient clysters, the feet frequently bathed in warm water, and, if the fits prove obstinate, a blistering-plaster may be put between the shoulders. The same method is to be followed, when epileptic fits precede the eruption of the small-pox, or measles, &c.

When the disease is hereditary, or proceeds from a wrong formation of the brain, a cure is not to be expected. When it is owing to a debility, or too great an irritability of the nervous system, such medicines as tend to brace and strengthen the nerves may be used, as the Peruvian bark, and steel; or the *anti-epileptic* electuaries, recommended by doctors Fuller and Mead.*

The sulphate of zinc has of late been highly extolled for the cure of the epilepsy. Though this medicine will not be found to answer the expectations which have been raised concerning it, yet in obstinate epileptic cases it deserves a trial. The dose is from one to three or four grains, four or five times a-day, 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.

Camphor and musk have sometimes been found to succeed in the epilepsy. Ten or twelve grains of each, with the same quantity of factitious cinnabar, may be made up into a bolus, and taken every night and morning.

Sometimes the epilepsy has been cured by electricity.

Convulsion-fits proceed from the same causes, and must be treated in the same manner as the epilepsy.†

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* See Appendix, *Electuary for the Epilepsy.*

[† The sulphate of zinc, given in full doses, has frequently relieved both epilepsy and St. Vitus's dance, a disease soon to be considered: but in epilepsy, the best remedy, in the opinion of many physicians, is oil of turpentine; it may be given in doses of one, two, or even four tea-spoonfuls, three times a day. Its good effect cannot always be accounted for, but it is found, in general, to alter materially the state of the intestinal canal.—ED.]

[*Of Chorea, or St. Vitus's Dance.*

This disease is a convulsive motion, most generally confined to one side, and affecting principally the arm and leg. When any motion is attempted to be made, the opposite muscles act which ought not, and the result is, a contrary effect is produced from what the patient intended. It is chiefly incident to young people, particularly females, attacking those of a weak constitution, or whose health and vigour have been impaired by confinement, and who have lived upon scanty and improper nourishment.

The disease first discovers itself by a slight lameness or instability of one leg, which the person drags after him in an odd and ridiculous manner; nor can he hold the arm of the same side quiet for an instant, for if he lays it on his breast, or other part of the body, it is forced quickly from thence by a twitching involuntary motion. If he is desirous of drinking, he makes many singular gesticulations in attempting to bring articles of food or drink towards the mouth. The eyes lose their lustre, and the countenance is pale, and void of expression; the act of swallowing is performed with difficulty, and articulation is frequently suspended. In the advanced periods of the disease, wasting of the flesh takes place, the common consequence of perpetual irritation, depraved appetite, and impaired digestion.

This feebleness and debility seems to have influenced the routine of practice usually pursued in the treatment of this disease. The remedies generally recommended have been of the tonic class, such as Peruvian bark, steel, bitters, preparations of zinc and copper, cold bathing, and electricity. Notwithstanding a due perseverance in these remedies, chorea has hitherto proved a tedious and untractable disease, continuing to harass the patient for months, and even years, not unfrequently occasioning lasting injury to the faculties of the mind, as well as the powers of the body.

Dr. Hamilton, of Edinburgh, in his excellent 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 rational and successful, that it becomes a duty to diffuse a knowledge of his opinions and practice as extensively as possible.—It may not be irrelevant to remark in this place, that Dr. Gasking of Plymouth, and the editor of this work, conceived the same ideas, and pursued the same plan of treatment as is enforced in that publication, several years previous to its appearing in print; since which, we had the honour of becoming acquainted with the worthy author, and took an opportunity, on one occasion, to state our sentiments on the

utility of a certain class of medicines in the removal of diseases; which led to those opinions:—the doctor instantly, and in the most handsome manner, admitted the fact, and its important results.

We do not state this with a view of raising our own reputation, nor to shew that discoveries of equal importance may not be made out of, as well as in, an university,—much less is this advanced to detract from the merit of an author whom we so highly respect, and to whom the world is so much indebted,—but to lay our humble claim to a share of originality of practice which is eminently successful, when judiciously followed, in the removal of various complaints.

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 that judicious practitioner has found successful in the cure of this disease, consist of active purgatives,—from three to five grains of calomel, combined with eight or ten of jalap, and the like proportion of scammony, or a sufficient quantity of the aloetic pill, occasionally interposing a proper dose of the infusion of senna and tamarinds, are so administered as to produce purging daily, which is to be continued till the progress of the disease is found to be subdued. 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 persisting in 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 increased appetite for food, are the circumstances that should regulate his conduct; and such circumstances ought to encourage him to proceed, notwithstanding the weakness of the patient. The quantity of feculent matter discharged during the use of these medicines, is sometimes so enormous, as to exceed belief; and this fact affords grounds to suppose, either that their retention, or the torpor and inactivity of the bowels, is a chief source of the complaint. The discharges from the bowels ought to be daily and attentively inspected, and the return of their natural colour and quantity

will be found to indicate, and keep pace with the renewal of health.

The Doctor adds, "Since I have employed purgatives in St. Vitus, or chorea, I have been only disappointed in effecting a cure in a solitary case." To this statement we can add our experience of the entire success of this mode of treatment, in various instances in which we have tried it.

When the complaint is subdued, the complete return of health and vigour is best effected by the use of a light and nutritive diet, with a moderate quantity of wine, sufficient exercise in the open air, and bathing in the sea in the proper season. A powder composed of five grains of the rust of iron, together with ten of rhubarb, and an equal quantity of powdered egg-shells, may also be taken every morning for some time in a little currant-jelly.—Ed.]

Of the Hiccup.

The hiccup is a spasmodic or convulsive affection of the stomach and midriff, arising from any cause that irritates their nervous fibres.

It may proceed from excess in eating or drinking; from a hurt in the stomach; poisons; wind; inflammations or scirrhous tumors of the stomach, intestines, bladder, midriff, or the rest of the *viscera*. In gangrenes, acute and malignant fevers, a hiccup is often the forerunner of death.

When the hiccup proceeds from the use of aliment that is flatulent, or hard of digestion, a draught of generous wine, or a dram of any spirituous liquor, will generally remove it. If poison be the cause, plenty of 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 spirits of nitre in a cup of wine-whey. His stomach should likewise be fomented with cloths dipped in warm water, or have bladders, filled with warm milk and water, applied to it.

When the hiccup proceeds from a gangrene or mortification, the Peruvian bark, with other antiseptics, are the only medicines which have a chance to succeed. When it is a primary disease, and proceeds from a foul stomach, loaded either with a pituitous or a bilious humour, a gentle vomit and purge, if the patient be able to bear them, will be of service. If it arises from flatulencies, the carminative medicines directed for the heartburn must be used.

When the hiccup proves very obstinate, recourse must be had to the most powerful aromatic and antispasmodic medicines. The principal of these is musk; fifteen or twenty

grains of which may be made into a bolus, and repeated occasionally. Opiates are likewise of service; but they must be used with caution. A bit of sugar dipped in compound spirits of lavender, or the volatile aromatic tincture, may be taken frequently. External applications are sometimes also beneficial; as the stomach plaster of the Edinburgh or London dispensatory, applied to the region of the stomach.

I lately attended a patient who had almost a constant hiccup for above nine weeks. It was frequently stopped by the use of musk, opium, wine, and other cordial and antispasmodic medicines, but always returned. Nothing, however, gave the patient so much ease as brisk small-beer. By drinking freely of this, the hiccup was often kept off for several days, which was more than could be done by the most powerful medicines. The patient was at length seized with a vomiting of blood, which soon put an end to his life. Upon opening the body, a large scirrhous tumor was found near the pylorus, or right of the stomach.

Cramp of the Stomach.

This disease often seizes people suddenly, is very dangerous, and requires immediate assistance. It is most incident to persons in the decline of life, especially the nervous, gouty, hysteric, and hypochondriac.

If the patient has any inclination to vomit, he ought to take some draughts of warm water, or weak camomile-tea, to cleanse his stomach. After this, if he has been costive, a laxative clyster may be given. He ought then to take laudanum. The best way of administering it is in a clyster. Sixty or seventy drops of liquid laudanum may be given in a clyster of warm water. This is much more certain than laudanum given by the mouth, which is often vomited, and, in some cases, increases the pain and spasms in the stomach.

If the pain and cramps return with great violence, after the effects of the anodyne clyster are over, another, with an equal or larger quantity of opium, may be given; and every four or five hours, a bolus, with ten or twelve grains of musk, and half a drachm of the Japonic confection. In the mean time, the stomach ought to be fomented with cloths dipped in warm water, or bladders, filled with warm milk and water, should be constantly applied to it. I have often seen these produce the most happy effects. The anodyne balsam may also be rubbed on the part affected; and an anti-hysteric plaster worn upon it for some time after the cramps are removed, to prevent their return.

In very violent and lasting pains of the stomach, some blood ought to be let, unless the weakness of the patient forbids it. When the pain or cramps proceed from a suppression of the

menses, bleeding is of use. If they be owing to the gout, recourse must be had to spirits, or some of the warm cordial waters. Blistering-plasters ought likewise in this case to be applied to the ancles. I have often seen violent cramps and pains of the stomach removed by covering it with a large plaster of ammoniac, 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 in 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 any thing that oppresses the mind, ought also to be avoided.

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 upon the use of food of easy digestion, cheerfulness, exercise through the day, and a light supper taken early, than to accustom himself to drams. A glass of peppermint-water will often promote digestion as much as a glass of brandy, and is much safer. After a person of weak digestion, however, has eaten flatulent food, a dram may be necessary; in this case we would recommend it as the most proper medicine.

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, upon coming into the house, especially if they drink hot liquor, or sit near a large fire. This might be easily prevented by people taking care not to go into a warm room immediately after they have been exposed to the cold air,—to approach the fire gradually,—and not to eat or drink any thing hot, till the body has been gradually brought into a warm temperature.

When any one, in consequence of neglecting these precautions, falls into a swoon, he ought immediately to be removed to a cooler apartment, to have ligatures applied above his knee and elbows, and to have his hands and face sprinkled with vinegar or cold water. He should likewise be made to smell to vinegar, and should have a spoonful or two of water, if he can swallow, with about a third part of vinegar mixed with it, poured into his mouth. If these should not remove the complaint, it may be necessary to bleed the patient, and afterwards to give him a clyster.

As air that is breathed frequently loses its elasticity or spring, it is no wonder if persons who respire in it often fall into a swoon or fainting-fit. They are in this case deprived of the very principle of life. Hence it is that fainting-fits are so frequent in all crowded assemblies, especially in hot seasons. Such fits, however, must be considered as a kind of temporary death; and, to the weak and delicate, they sometimes prove fatal. They ought therefore with the utmost care to be guarded against. The method of doing this is obvious. Let assembly-rooms, and all other places of public resort, be large and well ventilated; and let the weak and delicate avoid such places, particularly in warm seasons.

A person who faints in such a situation, ought immediately to be carried into the open air; his temples should be rubbed with strong vinegar or brandy, and volatile spirits or salts held to his nose. *He should be laid upon his back with his head low,* and have a little wine or some other cordial as soon as he is

able to swallow it, poured into his mouth. If the person has been subject to hysteric fits, castor or asafœtida should be applied to the nose, or burnt feathers, horn, or leather, &c.*

When fainting-fits proceed from mere weakness or exhaustion, which is often the case after great fatigue, long fasting, loss of blood, or the like, the patient must be supported with generous cordials, as jellies, 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 upon his back, with his head low, and should have fresh air admitted into his chamber. His food should consist of nourishing broths, sago-gruel with wine, new milk, and other things of a light and cordial nature. These things are to be given out of the fit. All that can be done in the fit, is, to let him smell to a bottle of Hungary-water, *eau de luce*, or spirits of hartshorn, and to rub his temples with warm brandy, or to lay a compress dipped in it to the pit of the stomach.

In fainting-fits that proceed from fear, grief, or other violent passions or affections of the mind, the patient must be very cautiously managed. He should be suffered to remain at rest, and only made to smell to some vinegar. After he is come to himself, 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 clean 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, spirits of lavender, tincture of castor, and the like.

Of Flatulencies, or Wind.

All nervous patients, without exception, are afflicted with wind or flatulencies in the stomach and bowels, which arise chiefly from the want of tone or vigour in these organs. Crude flatulent aliment, as green pease, 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.

[* We invariably blow a small quantity of vinegar out of a tea-spoon up the nostril, and this is attended in general with immediate benefit.—Ed.]

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 there.†

The list of medicines for expelling wind is very numerous; they often however disappoint the expectations of both 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, carraway, and coriander; gum asafœtida and cloves; the warm waters, tinctures, and spirits, as the aromatic water, the tincture of wood-soot, the volatile aromatic spirit, æther, &c.

Dr. Whyte says, he found no medicines more efficacious in expelling wind than æther and laudanum. He generallly gave the laudanum in a mixture with peppermint-water and tincture of castor, or sweet spirits of nitre. Sometimes, in place of this,

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[* Where the digestion is perfect, as is generally the case with those persons who work hard and live on coarse fare, there is very seldom any thing like flatulency. What is the cause of this unpleasant sensation? In general, it is gorging the stomach, and an inactive life. It is scarcely necessary to remark, that the best way to cure or remove a disease consists in the subduction of its causes. In the first stage of indigestion, then, our primary indication relates to diet, and exercise both of body and mind, a strict attention to which, in the slighter cases, with a mild aperient, will often effect a cure.—The true art of the table consists in eating moderately, slowly, and in cutting the meat very small.

The first feeling of satiety should, of course, be attended to by the dyspeptic patient; a single mouthful taken after this, oppresses a weak stomach: and such food as is found to disagree by individual experience, must be guarded against.

With respect to liquids, it is certain that we should not yield to every slight sensation of thirst; but rather drink moderately and deliberately. We cannot accede to the dogma that has been sometimes urged, that no fluids should be used at meals. The best liquid is warm water, especially at night: a glass of good wine may also be allowed immediately after dinner. Xenophon informs us, that the ancients seldom drank till the repast was finished; and Mr. Dodwell, in his recent travels in Greece, asserts that, to this day, the same custom prevails. "When the dinner is finished, a draught of wine is taken by each person." Vol. 1. p. 156. It is evident, however, that in the time of the Romans, and long before that period, drink was introduced at meals. We are informed by Persius, that the Romans drank hot water at dinner as a luxury, and to excite the appetite and digestion.—Ed.]

† Many nervous people find great benefit from eating a dry biscuit, especially when the stomach is empty. *I look upon this as one of the best carminative medicines;* and would recommend it in all complaints of the stomach, arising from flatulence, indigestion, &c.

he gave opium in pills with asafœtida. 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 often give immediate relief, except when the wind is in the stomach.

With regard to æther, the Doctor says, he has often seen very good effects from it in flatulent complaints, where other medicines failed. The dose is a tea-spoonful, mixed with two table-spoonfuls of water.* In gouty cases, he observes, that æther, a glass of French brandy, or of the aromatic water, or ginger, either taken in substance, or infused in boiling water, are among the best medicines for expelling wind.

When the case of flatulent patients is such as makes it improper to give them warm medicines inwardly, the Doctor recommends external applications, which are sometimes of advantage. Equal parts of the anti-hysteric and stomach plaster may be spread upon a piece of soft leather, of such size as to cover the greater part of the belly. This should be kept on for a considerable time, provided the patient be able to bear it; if it should give great uneasiness, it may be taken off, and the following liniment used in its stead:

Take of 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 table-spoonful well rubbed on the parts at bed-time.

For strengthening the stomach and bowels, and consequently for lessening the production of flatulence, the Doctor recommends the Peruvian bark, bitters, chalybeates, and exercise. In flatulent cases, he thinks some nutmeg or ginger should be added to the tincture of the bark and bitters, and that the aromatic powder should be joined with the filings of iron.

When windy complaints are attended with costiveness, which is often the case, few things will be found to answer better than four or five of the following pills taken every night at bed-time:

Take of asafœtida, two drachms; succotrine aloes, sulphate of iron, and powdered ginger, of each one drachm; as much of the tincture of castor 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,

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* Though the patient may begin with this quantity, it will be necessary to increase the dose gradually as the stomach can bear it. Æther is now given in considerably greater doses than it was in Dr. Whyte's time.—[Opium, æther, and all other heating medicines, will oftener do harm than good; they should, therefore, be administered with extreme caution.—Ed.]

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 upon it in a great measure agree with mine, I have taken the liberty to adopt them; and shall only add to his observations, that exercise is in my opinion superior to all medicine, both for preventing the production and likewise for expelling of flatulencies. These effects, however, are not to be expected from sauntering about, or lolling in a carriage; but from labour, or such active amusements as give exercise to every part of the body.

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 hypochondriac viscera, aloetic purges will be proper. I have sometimes known the Harrowgate or Tunbridge water of service in this case.

When low spirits proceed from a suppression of the menstrual or of the hæmorrhoidal flux, these evacuations may either be restored, or some other substituted in their place, as issues, setons, or the like. Dr. Whyte observes, that nothing has such sudden good effects in this case as bleeding.

When 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

humours, and depress the spirits. This caution is the more necessary, as the unfortunate and melancholy often fly to strong liquors for relief, by which means they never fail to precipitate their own destruction.

Of Hysteric 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 hysteric complaints. In such persons, an hysteric fit, as it is called, may be brought on by irritation of the nerves of the stomach or intestines, by wind, acrid humour, or the like. A sudden suppression of the *menses* often gives rise to hysteric fits. They may likewise be excited by violent passions or affections of the mind, as fear, grief, anger, or great disappointments.

ometimes the hysteric fit resembles a swoon or fainting-fit, during which the patient lies as in a sleep, only the breathing is so low as scarcely to be perceived. At other times the patient is affected with retchings and strong convulsions. The symptoms which precede hysteric fits are likewise various in different persons. Sometimes the fits come on with coldness of the extremities, yawning and stretching, lowness of spirits, oppression and anxiety. At other times, the approach of the fit is foretold by a feeling as if there were a ball at the lower part of the belly, which gradually rises towards the stomach, where it occasions inflation, sickness, and sometimes vomiting; afterwards it rises into the throat, and occasions a degree of suffocation, to which quick breathing, palpitation of the heart, giddiness of the head, dimness of the sight, loss of hearing, with convulsive motions of the extremities and other parts of the body, succeed. The hysteric paroxysm is often introduced by an immoderate fit of laughter, and sometimes it goes off by crying. Indeed, there is not much difference between the laughing and crying of an hysteric lady.

Our aim in the treatment of this disease must be to shorten the fit or paroxysm when present, and to prevent its return. The longer 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 hysteric fit or paroxysm, to bleed the patient. In strong persons of a plethoric habit, and where the pulse is full, this may be proper; but in weak and delicate constitutions, or where the disease has been of long standing, or arises from inanition, it is not safe. The best course in such cases is to rouse the patient by strong smells, as

burnt feathers, asafœtida, or spirits of hartshorn, held to the nose. Hot bricks may also be applied to the soles of the feet, and the legs, arms, and belly, may be strongly rubbed with a warm cloth. But the best application is to put the feet and legs into warm water. This is peculiarly proper when the fits precede the flow of the menses. In case of costiveness, a laxative clyster with asafœtida will be proper; and as soon as the patient can swallow, two table-spoonfuls of a solution of asafœtida, 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 spirits. A cool dry air is the best. Cold bathing, and every thing that braces the nerves, and invigorates the system, is beneficial; but lying too long in bed, or whatever relaxes the body, is hurtful. It is of the greatest importance to have the mind kept constantly easy and cheerful, and, if possible, to have it always engaged in some agreeable and interesting pursuit.

The proper medicines are those which strengthen the alimentary canal and the whole nervous system, as the preparations of iron, the Peruvian bark, and other bitters. Twenty drops of the elixir of vitriol, in a cup of the infusion of the bark, may be taken twice or thrice a day. The bark and iron may likewise be taken in substance, provided the stomach can bear them; but they are generally given in too small doses to have any effect. The chalybeate waters generally prove beneficial in this disorder.

If the stomach is loaded with phlegm, vomits will be of use; but they should not be too strong, nor frequently repeated, as they tend to relax and weaken the stomach. If there is a tendency to costiveness, it must be removed either by diet, or by taking an opening pill as often as it shall be found necessary.

To lessen the irritability of the system, antispasmodic medicines will be of use. The best antispasmodic medicines

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* When hysteric fits are occasioned by sympathy, they may be cured by exciting an opposite passion. This is said to have been the case of a whole school of young ladies in Holland, who were all cured by being told, that the first who was seized should be 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 hysteric fits, should not be sent to boarding schools, as the disease may be caught by imitation. I have known madness itself brought on by sympathy.

are musk and castor. It is often successful in removing those periodical headaches to which hysteric and hypochondriac patients are subject. Castor has in some cases been found to procure sleep where opium failed; for which reason Dr. Whyte advises that they should be joined together. He likewise recommends the anti-hysteric plaster to be applied to the abdomen.*

Hysteric women are often afflicted with cramps in various parts of the body, which are most apt to seize them in bed, or when asleep. The most efficacious medicines in this case are opium, blistering-plasters, and warm bathing or fomentations. When the cramp or spasm is very violent, opium is the remedy most to be depended on. In milder cases, immersing the feet and legs in warm water, or applying a blistering-plaster to the part affected, will often be sufficient to remove the complaint. In patients whose nerves are uncommonly delicate and sensible, it will be better to omit the blistering-plaster, and to attempt the cure by opiates, musk, camphor, and the warm bath.

Cramps are often prevented or cured by compression. Thus cramps in the legs are prevented, and sometimes removed, by tight bandages; and when convulsions arise from a flatulent distention of the intestines, or from spasms beginning in them, they may be often lessened or cured by making a pretty strong compression upon the abdomen by means of a broad belt. A roll of brimstone held in the hand is frequently used as a remedy for cramps. Though this seems to owe its effect chiefly to imagination, yet, as it sometimes succeeds, it merits a trial.† When spasms or convulsive motions arise from sharp humours in the stomach or intestines, no lasting relief can be procured till these are either corrected or expelled. The Peruvian bark has sometimes cured periodic convulsions, after other medicines had failed.

Of Hypochondriac 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 resem-

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* Though antispasmodics and anodynes are universally recommended in this disease, yet all the extraordinary cures that I ever knew in hysteric cases, were performed by means of tonic medicines and exercise.

† Some persons afflicted with cramps pretend to reap great benefit from small bundles of rosemary tied all night about their feet, ancles, and knees,—[but rubbing the parts affected with warm camphorated spirits is much more likely to do good.—Ed.]

[‡ The notes which we have introduced under indigestion, heartburn, flatulency, &c. may be consulted as applicable to this, and nearly to all the diseases in this chapter.—Ed.]

blance 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.

Hypochondriac persons ought never to fast long, and their food should be solid and nourishing. All acescent and windy vegetables are to be avoided. Flesh-meats agree best with them, and their drink should be old claret or good madeira. Should these disagree with the stomach, water with very little brandy or whisky in it may be drank.

Cheerfulness and serenity of mind are by all means to be cultivated. Exercise of every kind is useful. The cold bath is likewise beneficial; and, where it does not agree with the patient, frictions with the flesh-brush or a coarse cloth may be tried. If the patient has it in his power, he ought to travel either by sea or land. A voyage or a long journey, especially towards a warmer climate, will be of more service than any medicine.

The general intentions of cure in this disease, are to strengthen the alimentary canal, and to promote the secretions. These intentions will be best answered by the different preparations of iron and the Peruvian bark, which, after proper evacuations, may be taken in the same manner as directed in the preceding disease.

If the patient be costive, it will be necessary to make use of some gentle opening medicine, as pills composed of equal parts of aloes, rhubarb, and asafœtida, with as much of the elixir 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 asafœtida may substitute Spanish soap in its place.

Though a cheerful glass may have good effects in this disease, yet all manner of excess is hurtful. Intense study, and every thing that depresses the spirits, are likewise pernicious.

Though the general symptoms and treatment of nervous disorders were pointed out in the beginning of this chapter;*

[* Its removal consists in a steady attention to regimen, exercise, and clothing; in obviating costiveness, by the most gentle laxatives; in the use

yet, for the benefit of the unhappy persons afflicted with those obstinate and complicated maladies, I have treated several of their capital symptoms under distinct or separate heads. These, however, are not to be considered as different diseases, but as various modifications of the same disease. They all arise from the same general causes, and require nearly the same method of treatment. There are many other symptoms that merit particular attention, which the nature of my plan will not permit me to treat of at full length. I shall therefore omit them altogether, and conclude this chapter with a few general remarks on the most obvious means of preventing or avoiding nervous disorders.

In all persons afflicted with nervous disorders, there is a great delicacy and sensibility of the whole system, and an uncommon degree of weakness of the organs of digestion. These may be either natural or acquired. When owing to a defect in the constitution, they are hardly to be removed; but may be mitigated by proper care. When induced by diseases, as long or repeated fevers, profuse hæmorrhages, or the like, they prove also very obstinate, and will yield only to a course of regimen calculated to restore and invigorate the habit.

But nervous affections arise more frequently from causes, which it is in a great measure in our own power to avoid, than from diseases, or an original fault in the constitution, &c. Excessive grief, intense study, improper diet, and neglect of exercise, are the great sources of this extensive class of diseases.

It has been already observed, that grief destroys the appetite and digestion, depresses the spirits, and induces an universal relaxation and debility of the whole system. Instances of this are daily to be seen. The loss of a near relation, or any other misfortune in life, is often sufficient to occasion the most complicated series of nervous symptoms. Such misfortunes indeed are not to be avoided, but surely their effects, by a vigorous and proper exertion of the mind, might be rendered less hurtful. For directions in this matter we must refer the reader to the article GRIEF, in the chapter on the Passions.

The effects of intense study are pretty similar to those occasioned by grief. It preys upon the animal spirits, and destroys the appetite and digestion. To prevent these effects, studious persons ought, according to the poet, *to toy with their book.** 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

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of bitters and chalybeates, assisted by the cold bath. See the note at page 356.—ED.]

* Armstrong on Health.

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 humours. When Nature is oppressed with fresh loads of food, before she has had time to digest and assimilate the former meal, her powers are weakened, and the vessels are filled with crude humours. On the other hand, when the food is not sufficiently nourishing, or is taken too seldom, the bowels are inflated with wind, and the humours, for want of regular fresh supplies of wholesome chyle, are vitiated. These extremes are therefore with equal care to be avoided. They both tend to induce a relaxation and debility of the nervous system, with all its dreadful train of consequences.

But the most general cause of nervous disorders is *indolence*. The active and laborious are seldom troubled with them. They are reserved for the children of ease and affluence, who generally feel their keenest force. All we shall say to such persons is, *that the means of prevention and cure are both in their own power*. If the constitution of human nature be such, that man must either labour or suffer diseases, surely no individual has any right to expect an exemption from the general rule.

Those, however, who are willing to take exercise, but whose occupations confine them to the house, and perhaps to an unfavourable posture, really deserve our pity. We have, in a former part of the book, endeavoured to lay down rules for their conduct; and shall only add, that where these cannot be complied with, their place may, in some measure, be supplied by the use of bracing and strengthening medicines, as the Peruvian bark, with other bitters; the preparations of steel; the elixir of vitriol, and such like.

Among many remarkable cases of the nervous kind, which I have often met with, one very lately attracted my notice in a peculiar manner. It was written by the patient himself, a gentleman of fortune and of liberal education; and it might be justly called a picture from nature, drawn with uncommon sensibility and force. The whole account being too long for insertion, the following extract may serve as a specimen of the writer's sufferings and descriptive talents. "It is in vain," he says, "that I attempt to impress the Faculty with the real state of my sufferings. The symptoms of the disorders are not to be described, from their unusual pressure upon the mind; nor can they be conceived, I believe, by any but those who have suffered under them. They may be said to constitute a phenomenon in the science of diseases. Since I know of no terms to express them in, or language to describe them by, I am obliged to content myself with denominating the disorder

and its effects together, a *mental agony*, whose influence creates a real *tedium vitæ*. It attacks me sometimes when sitting, sometimes when walking; and if I were not to throw myself on a bed during the violence of the paroxysm, I should certainly dash myself to pieces. This is accompanied with a lassitude, restlessness, and total incapacity of attending to any concerns in life."

The same spirit animated every part of the affecting description; and the case was accompanied with a list of eleven eminent physicians, whom the patient had consulted at different times, but whose names I suppress, as their prescriptions did him no good, and did them no honour. When the primary seat of the disease is in the mind, it is stooping to the low tricks of quackery to amuse a patient with false hopes of the efficacy of any medicine. The disappointment that follows aggravates every painful symptom, and makes the unhappy sufferer look forward to death as the only resource. All I prescribe for him is, travelling.

I should also have willingly inserted here an account of some other nervous affections of an extraordinary nature, had not their length exceeded the limits I prescribed to myself in these supplementary observations.

CHAP. XLIX.

DISORDERS 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 shew how they may be prevented or remedied.

Of the Eye.

No organ of the body is subject to more diseases than the eye; nor is there any one of which the diseases are more difficult to cure. Though more ignorant persons pretend to cure these than any other class of diseases, yet a very superficial acquaintance with the structure of the eye, and the nature of vision, will be sufficient to convince any one of the danger of trusting to them. These diseases often exceed the skill of the most learned physician; hence we may easily infer the danger of trusting them to ignorant quacks, who, without all peradventure, put out more eyes than they cure. But, though the diseases of the eye can seldom be cured, they might often, by due care, be prevented; and, even where the sight is totally lost, many things might be done, which are generally neglected, to

render the unhappy person both more useful to himself and to society.*

The eyes are hurt by viewing bright or luminous objects; keeping the head too long in a hanging posture; violent head-achs, excessive venery; the long use of bitters; the effluvia from acrid or volatile substances; various diseases; as the small-pox, measles, &c.; but, above all, from night-watching, and candle-light 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 vapours of onions and garlic, and all vivid lights and glaring colours, 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,

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* 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 light. 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 Editor has in his possession a MS. volume of observations on the laws of nature, &c. taken down as they fell from the lips of this wonderful genius; they are an astonishing production, and fully confirm the above encomium.]

by redundant humours, these 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. A running at the nose may be promoted by volatile salts, stimulating powders, &c. 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 humour. 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 *short-sightedness*, 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 inconveniences arising from them may, however, be in some measure remedied by the help of proper glasses. The former requires the aid of a concave, and the latter of a convex glass.

A *strabismus*, or *squinting*, depends upon an irregular contraction of the muscles of the eye, from a spasm, palsy, epilepsy, or an ill habit. Children often contract this disorder by having their eyes unequally exposed to the light. They may likewise acquire it by imitation from a squinting nurse, or playfellow, &c. As this disorder can hardly be cured, parents ought to be careful to prevent it. Almost the only thing which can be done for it, is to contrive a mask for the child to wear, which will only permit him to see in a straight direction.

[* Savine Cerate, invented by Mr. Crowther of London, more effectually promotes the after-discharge from blisters, than any other ointment hitherto discovered.—Ed.]

† In both these cases electricity merits a trial.

Spots or *specks* on the eyes are generally the effect of inflammation, and often appear after the small-pox, the measles, or violent ophthalmias. They are very difficult to cure, and often occasion total blindness. If the specks are soft and thin, they may sometimes be taken off by gentle caustics and discutients; as vitriol, the juice of celandine, &c. When these do not succeed, a surgical operation may be tried: the success of this, however, is always very doubtful.

The *blood-shot* eye may be occasioned by a stroke, a fall, retching, vomiting, violent coughing, &c. I have frequently known it happen to children in the hooping-cough. It appears at first like a bit of scarlet, and is afterwards of a livid or blackish colour. This disorder generally goes off without medicine. Should it prove obstinate, the patient may be bled, and have his eyes fomented with a decoction of comphry roots and elder flowers. A soft poultice may be applied to the eyes; and the body should be kept open by gentle purgatives.

The *watery* or *weeping eye* is generally occasioned by a relaxation or weakness of the glandular parts of that organ. These may be braced and strengthened by bathing the eye with brandy and water, Hungary-water, rose-water, with white vitriol dissolved in it, &c. Medicines which make a revulsion are likewise proper; as mild purgatives, perpetual blisters on the neck, bathing the feet frequently in lukewarm water, &c.

When this disease proceeds from an obstruction of the lachrymal duct, or natural passage of the tears, it is called a *fistula lachrymalis*, and can only be cured by a surgical operation. A weeping or watery eye is often the mark of a scrofulous habit.

Of the Ear.

The functions of the ear may be injured by wounds, ulcers, or any thing that hurts its fabric. The hearing may likewise be hurt by excessive noise; violent colds in the head; fevers; hard wax, or other substances, sticking in the cavity of the ear; too great a degree of moisture or dryness 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.*

* 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

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 asafœtida, may be mixed together, and a few drops of it put into the ear every night at bed-time, stopping them afterwards with a little wool or cotton. Some, instead of oil, put a small slice of the fat of bacon into each ear, which is said to answer the purpose very well. When the ears abound with moisture, it may be drained off by an issue or seton, which should be made as near the affected parts as possible.

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

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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 *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 fomer attempts in this way; and indeed it exceeds imagination itself so far, that no person who has not seen and examined his pupils, can believe what they are capable of. As this gentleman, however willing, is only able to teach a few, and as the far greater part of those who are born deaf cannot afford to attend him, it would be an act of great humanity, as well as public utility, to erect an academy for their benefit.—[This suggestion has been acted upon for many years. We have visited the excellent institution for teaching the deaf and dumb at Edinburgh, and were highly gratified at the proficiency of the pupils under the care of Mr. Koningsburgh. Several other institutions for the same laudable purpose have been lately established in many of our large towns. We understand that one on a large scale is now forming at Liverpool, under the immediate direction of a gentleman, who is no less distinguished for his general benevolence, than for his particular attention to the moral instruction of the rising generation.—Ed.]

into the ear with cotton-wool. But these and other applications must be varied according to the cause of the disorder.

Though such applications may sometimes be of service, yet they much oftener fail, and frequently they do hurt. Neither the eyes nor ears ought to be tampered with; they are tender organs, and require a very delicate touch. For this reason, what we would chiefly recommend in deafness, is, to keep the head warm. From whatever cause the disorder proceeds, this is always proper; and I have known more benefit from it alone, in the most obstinate cases of deafness, than from all the medicines I ever used.*

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, generally affects the other.

Luxury is highly injurious to these organs. When the nose and palate are frequently stimulated by fragrant and poignant dishes, they soon lose the power of distinguishing tastes and odours with any degree of nicety. Man, in a state of nature, may perhaps have these faculties as acute as any other animal.

The sense of smelling may be diminished or destroyed by diseases; as the moisture, dryness, inflammation, or suppuration of that membrane which lines the inside of the nose, commonly called the olfactory membrane; the compression of the nerves which supply this membrane, or some fault in the brain itself at their 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 fœtid matter in those caverns, which keeps constantly exhaling from them. Few things are more hurtful to the sense of smelling than taking great quantities of snuff.†

When the nose abounds with moisture, after gentle evacuations, such things as tend to take off irritation, and coagulate the thin sharp serum, may be applied; as the oil of aniseed mixed with fine flour; camphor dissolved in oil of almonds, &c.

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* An obstinate deafness has been cured by electricity.

[† It is astonishing that any decent well-bred person can be induced to pursue that dirty custom of snuffing, chewing, or smoking tobacco; we have even seen a minister indulge in this habit in the pulpit; a place intended for preaching the word, and not for taking snuff.—Ed.

The vapours of amber, frankincense, gum-mastic, and benjamin, may likewise be received into the nose and mouth.

For moistening the mucus, when it is too dry, some recommend snuff made of the leaves of marjoram, mixed with the oil of amber, marjoram, and aniseed; or a sternutatory of calcined white vitriol; twelve grains of which may be mixed with two ounces of marjoram-water, and filtrated. The steam or vapour of vinegar upon hot iron received up the nostrils is likewise of use for softening the mucus, opening obstructions, &c.

If there is an ulcer in the nose, it ought to be dressed with some emollient ointment, to which, if the pain be very great, a little laudanum may be added. If it be a venereal ulcer, it is not to be cured without mercury. In that case, the solution of the corrosive sublimate in brandy may be taken as directed in the gutta serena. The ulcer ought likewise to be washed with it; and the fumes of cinnabar may be received up the nostrils.

If there be reason to suspect that the nerves which supply the organs of smelling are inert, or want stimulating, volatile salts, strong snuffs, and other things which occasion sneezing, may be applied to the nose. The forehead may likewise be anointed with balsam of Peru, to which may be added a little of the oil of amber.

The *taste* may be diminished by crusts, filth, mucus, aphthæ, pellicles, warts, &c. covering the tongue. It may be depraved by a fault of the saliva, which, being discharged into the mouth, gives the same sensations as if the food which the person takes had really a bad taste; or it may be entirely destroyed by injuries done to the nerves of the tongue and palate. Few things prove more hurtful either to the sense of tasting or smelling, than obstinate colds, especially those which affect the head.*

When the taste is diminished by filth, mucus, &c. the tongue ought to be scraped, and frequently washed with a mixture of water, vinegar, and honey, or some other detergent. When the saliva is vitiated, which seldom happens, unless in fevers or other diseases, the curing of the disorder is the cure of this symptom. To relieve it, however, in the mean time, the following things may be of use: If there be a bitter taste, it may be taken away by vomits, purges, and other things which evacuate bile. What is called a nidorous taste, arising from putrid humours, 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.

[* Such colds are most generally caught by dropping asleep after dinner; sitting opposite to a large fire, or adjoining an open door or window.—Ed.]

When the sensibility of the nerves which supply the organs of taste is diminished, the chewing of horse-radish, or other stimulating substances, will help to recover it.

Of the Touch.

The sense of touching may be hurt by any thing 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*, horse-radish, &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 an 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, those 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 every thing we eat and drink.*

Uncleanness is also highly injurious to the organs of sensation. Perhaps the benignity of nature is not displayed in any thing more strongly than in the warnings she gives of this evil, and in her own endeavours to avert it. She has left us so little to do, that we deserve no pity for the severest punishment of our neglect. See how kindly she has guarded the extremities of the nerves all over the body, the interior parts of the nose, the mouth, the ear, the eye, against external annoyance! Observe with what efforts, entirely independent of our will, she strives to relieve those delicate organs from all impurities! The uneasiness we feel upon such occasions ought to rouse our immediate attention. Shall we suffer dirt to gather upon the skin, to dull the sense of feeling, to obstruct the pores, and to drive back into the system the noxious particles which nature endeavours to throw off, when the use of a little soap and water would prevent every inconvenience? Is it too much trouble to wash the ears; to dip the face with the eyes open in a bason of clean water four or five times every morning; to rinse the nose and mouth; and to keep the tongue clean, not by scraping it, but by attending to the state of the stomach, of which the tongue is an index? Some people seem to be as much afraid of water as if they had been bitten by a mad dog; and if they remain obstinate in that antipathy, I can only say, they deserve a far worse end than that of such unfortunate incurables,—to be suffocated in their own filth.

CHAP. L.

OF A SCIRRHUS AND CANCER.

A SCIRRHUS is a hard indolent tumor, usually seated in some of the glands; as the breasts, the arm-pits, &c. If the tumor becomes large, unequal, of a livid, blackish, or leaden colour, and is attended with violent pain, it gets the name of an *occult cancer*. When the skin is broken, and a *sanies* or ichorous matter of an abominable fœtid smell is discharged from the sore, it is called an open or ulcerated cancer. Persons after the age of forty-five, particularly women, and those who lead an indolent sedentary life, are most subject to this disease.

[* The man who could and did compress so much sound reasoning into one short paragraph as we have above, must be deemed a patriot and a physician.—ED.]

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 breast 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 an hazel-nut, or perhaps smaller, is generally the first symptom. This will often continue for a long time without seeming to increase, or giving the patient great uneasiness; but if the constitution be hurt, or the tumor irritated by pressure, or improper treatment of any kind, it begins to extend itself towards the neighbouring parts, by pushing out a kind of roots or limbs. It then gets the name of *cancer*, from a fancied resemblance between these limbs and the claws of a crab. The colour of the skin begins to change, which is first red, afterwards purple, then bluish, livid, and at last black. The patient complains of heat, with a burning, gnawing, shooting pain. The tumor is very hard, rough, and unequal, with a protuberance, or rising, in the middle; its size increases daily, and the neighbouring veins become thick, knotty, and of a blackish colour.

The skin at length gives way, and a thin sharp ichor begins to flow, which corrodes the neighbouring parts till it forms a large unsightly ulcer. More occult cancers arise, and communicate with the neighbouring glands. The pain and stench become intolerable; the appetite fails; the strength is exhausted by a continual hectic fever; at last, a violent hæmorrhage, or discharge of blood, from some part of the body, with faintings or convulsion-fits, generally put an end to the miserable patient's life.

REGIMEN.—The diet ought to be light, but nourishing. All strong liquors, and high-seasoned or salted provisions, are to be avoided. The patient may take as much exercise as he can easily bear; and should use every method to divert thought, and amuse his fancy. All kinds of external injury are carefully to be guarded against, particularly of the affected part, which ought to be defended from all pressure, and even from the external air, by covering it with fur or soft flannel.

MEDICINE.—This is one of those diseases for which no certain remedy is yet known. Its progress, however, may sometimes be retarded, and some of its most disagreeable symptoms mitigated, by proper applications. One misfortune attending the disease is, that the unhappy patient often conceals it too long. Were proper means used in due time, a cancer might often be prevented; but after the disorder has arrived at a certain height, it generally sets all medicine at defiance.

When a 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 drank 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 by the knife. Indeed, whenever this can be done with safety, the sooner it is done the better. It can answer no purpose to extirpate a cancer after the constitution is ruined, or the whole mass of humours corrupted by it. This, however, is the common way, which makes the operation so seldom succeed. 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,

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[* There can be no doubt, that an induration of the female breast, when attended to early, will yield to the application of leeches at proper intervals, (according to the state of the case;) a lotion composed of a solution of acetated ammonia three parts, and British brandy one part, applied on soft rags very often; small doses of cooling alterative medicines; and a rigid attention to diet, exercise, and tranquillity of mind.

We are, however, bound to state, that a remedy of great potency is now very much in vogue in the removal of this dreadful malady. We mean IODINE. It is said, by French writers especially, to possess astonishing efficacy in cancer and other glandular affections; and we have now the testimony of several British physicians in its favour: but we must confess that we have not in our own practice realized the high character which this remedy has acquired in the hands of some. When administered with *due precaution*, (for this must not be lost sight of,) this medicine is certainly deserving of a fair trial.—ED.]

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 night-shade, in cancers of the breasts.

But the medicine most in repute at present for this disease is hemlock. Dr. Stock, physician at Vienna, has of late recommended the extract of this plant as very efficacious in cancers of every kind. The Doctor says, he has given some hundred-weights of it without ever hurting any body, and often with manifest advantage. 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 upon 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 the 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 and 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 as a proper drink, but as a powerful medicine in this disease. It must be frequently made fresh, and the patient may take it at pleasure. Two, three, or even four English pints of it, may be drank every day for a considerable time. No benefit can be expected from any medicine in this disease, unless it be persisted in for a long time. It is of too obstinate a nature to be soon removed; and, when it admits of a cure at all, it must be brought about by inducing an almost total change of the habit, which must always be a work of time. Setons or issues in the neighbourhood of the cancer have sometimes good effects.†

When all other medicines fail, recourse must be had to opium, as a kind of solace. This will not indeed cure the disease, but it will ease the patient's agony, and render life more tolerable while it continues.

To avoid this dreadful disorder, people ought to use wholesome food; to take sufficient exercise in the open air; to be as easy and cheerful as possible; and carefully to guard against all blows, bruises, and every kind of pressure upon the breasts, or other glandular parts.‡

In the long catalogue of human 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 that does not always succeed. I have frequently seen small tumors in the breast, which might

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* London Medical Essays.

† 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 he 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 would have given some directions for the gathering and preparing of that plant; but as its different preparations are now kept in the shops, we think it much safer for people to get them there, with proper directions for using them.

perhaps have ended in cancers, yield to the camphorated mercurial ointment, applied twice a day; but after the scirrhus had broke and become a cancer, I do not remember having ever seen it cured: nor do I believe that the whole *materia medica* can afford a remedy for it.

Yet there are plenty of people in London who *cure cancers;* and no one, who has a sufficient share of faith, can be at a loss for a cancer doctor. One may see even the fronts of houses inscribed with the words, "Cancers *cured here,*" in large characters. I lately had a patient, who once fancied that her breast was a little cancerous, and, under that impression, was kept for two years in the hands of a female cancer-curer, though the lady in reality had not the least symptom of a cancer about her.

But credulity is a disease of the mind still more incurable than cancers. I had occasion, a few years ago, to make several visits at the house of one of the richest merchants in London, whose sister was afflicted at the time with a cancer; and though she lived in the same house, I was never desired to look at her. Blind credulity prevailed over reason. Her cure was intrusted 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. LI.

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 generally at hand, are easily obtained, and nothing but common prudence is 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 shews

plainly what ought to be done. Indeed, common sense dictates to every one, that, if any thing has been taken into the stomach which endangers life, it ought immediately to be discharged. Were this duly regarded, the danger arising from poisons might generally be avoided. The method of prevention is obvious, and the means are in the hands of every one.

[The preceding remark was hypothetical until very lately, but is now become practical by the invaluable invention of Read's stomach syringe; an instrument which has already saved many lives. Its portability and simplicity of construction, and the facility of its application, are a strong recommendation in its favour. We have no hesitation in giving it as our opinion, that the *life pump* (as it might be designated) ought to be in the hands not only of every member of the faculty, but of magistrates and clergymen residing in parishes which are remote from medical assistance.*

But, as this apparatus may not be at hand, and as the consternation is so great on the part of the bystanders, and even medical men themselves, that a plain and concise code of instructions for the guidance of families and of country practitioners, on these emergencies, is a matter of great importance, we shall therefore endeavour to lay before our readers a toxicological epitome, being a partial analysis of a French work (and the best ever published) on poisons, by M. Orfila, which may prove of essential service in cases of exigency, when every *moment* is of the utmost value.

MINERAL POISONS.

Section I. The Acids; viz *The Sulphuric, Nitric, Muriatic, &c.*

1. *Tests.*—All the acids redden the blue tincture of turnsole. The sulphuric has no odour. Concentrated nitric acid is white; poured upon copper, it bubbles and raises orange-yellow coloured vapours. Concentrated muriatic acid gives out white vapours.

2. *Symptoms, when taken into the Stomach.*—Disagreeable acid, burning taste; heat in the throat and stomach; acute pain in the throat, descending to the bowels; insupportable fætor of the breath, inclination to vomit, vomiting of different coloured matters, sometimes reddened with blood; hiccup, constipation, or frequent bloody stools; colic, or rather acute pain in the belly; difficulty of respiration, anguish, frequent irregular pulse; burning thirst; pain augmented by drinking. Convulsions, and various other distressing symptoms, terminate the scene.

3. *Antidotes.*—Calcined magnesia. The patient should take

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* For an Engraving of Read's Stomach Syringe, with directions for its use, see page 405.

immediately a mixture of magnesia and water, in the proportion of an ounce to a pint. A glass of this should be given every two minutes, in order to produce vomiting. While the magnesia is procuring, common water, or linseed decoction, should be drank. When magnesia cannot he procured, half an ounce of soap dissolved in a pint of water, should be given. Where these cannot be procured, prepared chalk may be given. Glysters prepared with the same substances should be given.

4. *Treatment.*—Certain of having neutralized all the acid which has not acted, our next object is to obviate the inflammation induced. Leeches and fomentations should be applied to the abdomen; and if prompt relief be not obtained by these and the warm bath, blood is to be taken from the arm, in greater or less quantities, according to the urgency of the symptoms. All food is to be prohibited; diluents are to be taken, and laxative glysters thrown up. If the patient cannot swallow, from inflammation of the throat, leeches are to be applied there. The cramps and spasmodic affections will disappear with the inflammation which produced them. A return to diet during convalescence must be extremely gradual.

II. Concentrated Alkalies, as *pure Potash, Subcarbonate of Potash, Soda, Liquid Ammonia, Lime, &c.*

1. *Tests.*—The alkalies, dissolved in water, colour the syrup of violets green.

2. *Symptoms, when taken into the Stomach.* These are nearly the same as those where the acids are taken. The taste of these poisons, however, is acrid, caustic, and urinous; and the matter vomited changes to green the syrup of violets. The concentrated volatile alkali soon occasions dreadful convulsions: it is ever dangerous to apply it long to the nostrils of a person who has fainted. The vapour evaporates, and inflames the throat and lungs, as has recently been exemplified fatally.

3. *Antidotes.* Vinegar and lemon-juice. Two table-spoonfuls of vinegar or lemon-juice should be put to a glass of water, and several glasses thus acidulated should be administered with the greatest possible promptitude. Where these are not at hand, plain water should be taken in large quantities, carefully avoiding emetic tartar, ipecacuanha, or other irritating substances. The sequel or inflammatory effects must be obviated as where the acids have been swallowed.

III. *Corrosive Sublimate, Arsenic, Verdigris, Blue Vitriol, Antimony.*

Before speaking of these individually, some general remarks may be made on them collectively.

The taste of these substances is acrid and metallic. The patient complains of a constriction of the throat, pain in the

back part of the mouth, in the stomach, and in the bowels; vomiting of various matters, which never colour the syrup of violets green; constipation or diarrhœa. To these are soon superadded, fœtid eructations, hiccups, difficulty of breathing. The pulse becomes accelerated, small, and hard, sometimes intermitting; thirst unquenchable, difficulty of voiding urine, cramps, delirium, convulsions, death.

1. *Corrosive Sublimate,* (oxymuriate of quicksilver.) This medicine cannot be taken with impunity, even in doses of one or two grains. Placed upon wounds, cancers, ulcers, &c. it acts as a violent poison, and death ensues in ten, fifteen, twenty, or thirty hours. Hence the danger of its external application. It is an ingredient in the various cosmetics which are advertised by quacks to beautify the faces of British females; by which many are gradually poisoned.

Tests.—All the mercurial preparations, heated to redness in a glass tube with potash, are decomposed, the quicksilver being set at liberty and volatilized. The corrosive sublimate is white, soluble in water, and is precipitated *yellow* by potash, and *white* by ammonia.

Antidotes.—Whites of eggs beat up with water-milk. When an individual is poisoned by a mercurial preparation introduced into the stomach, or applied externally, the whites of twelve or fifteen eggs (the yolks may be included without inconvenience) should be mixed up with two pints of cold water, and a glass of this drink given every two minutes, in order to promote vomiting. If the above number cannot be procured, then as many as possible. When eggs are not at hand, milk should be given in abundance, and where neither can be got, then gum water, infusion of linseed, of marshmallows, sugar and water; or if all are absent, pure water itself should be administered. The after treatment of inflammatory symptoms is the same as mentioned under acids.

2. *Arsenic.—Tests.* White arsenic is under the form of a white powder, like sugar, but is heavier; volatilizes, diffusing an odour of garlic when thrown upon burning coals. It is soluble in water; becomes of a very fine green when put into blue ammoniacal sulphate of copper. The arsenic acid is white, diffuses an odour of garlic when thrown upon burning coals; dissolves very readily in water, and passes to a very clear blue when put into ammoniacal sulphate of copper.

Symptoms, when taken into the system.—The external application of arsenic to cancers, &c. is very dangerous, since experience has proved that it may cause all the symptoms of poisoning, and occasion death in twenty-four or forty-eight hours. Swallowed, even in very small doses, arsenic is a strong poison. It does not kill, as is vulgarly supposed, by burning the stomach and intestines, but by being absorbed,

and thus destroying the vital properties of the heart: very often this organ is inflamed and ulcerated by the arsenic.

Antidotes.—Sugar and water, decoction of the roots of linseed or mallows. By these means the stomach is filled, vomiting is induced, and the poison is necessarily ejected. Equal parts also of lime-water and sugar and water may be given. The after treatment the same as where acids are swallowed.

3. *Preparations of Copper.*—The more active preparations of copper are poisonous, even when taken in small doses. They may, however, be applied to wounds without danger.

Tests.—The salts of copper dissolved in water, are, in general, of a blue-green colour. The prussiate of potash gives a reddish brown precipitate; metallic iron and phosphorus instantly separate the copper. The artificial verdigris is not entirely soluble in cold water, it affords a blue liquor, and a blackish brown powder. Exposed to a red heat in a crucible, it is decomposed, and yields metallic copper.

Antidotes.—Albumen, for instance, whites of eggs.

Treatment.—A person poisoned by verdigris, or by any other copper salt, ought to be treated as directed in treating of corrosive sublimate.

IV. *Antimonial Preparations.*

The effects of these are very similar to those where acids are swallowed, excepting that they occasion more abundant and obstinate vomiting, very copious stools, difficult respiration, and often such a constriction of the throat, that the patient cannot swallow. Afterwards, they produce painful cramps, a sort of intoxication, and prostration of strength.

Tests.—All the preparations of antimony, when exposed to a red heat in a crucible, with potash and charcoal, yield metallic antimony, which is easily known; first, by its bluish white colour; second, by the property which it has, when heated with nitric acid, of giving a white powder, soluble in hydrochloric acid. Tartar emetic is white; thrown upon burning coals, it becomes black, and affords metallic antimony; it is precipitated of an orange colour by the hydro-sulphuric acid, of a grayish white by the infusion of galls.

Treatment.—If the individual has not begun to vomit, and yet presents the symptoms of being poisoned, several glasses of sugar and water should be given; infusion of galls, four or five to a quart of boiling water, oak or willow bark, may be used; several glasses of this drink should be given.

If, on being called to the patient, in such cases, there have been abundant vomiting, and there are cramps and pains of the stomach, &c. the vomiting must be promoted by the administration of *sugar and water*, in repeated draughts. If, notwithstanding these means, the vomitings and pains continue and

augment, a grain of the extract of opium should be given, dissolved in a glass of sugar and water, and repeated three times, at intervals of a quarter of an hour.—If the symptoms should still continue or augment, twelve or fifteen leeches should be applied upon the region of the stomach, and if the constriction of the throat should prevent swallowing, the same application should be made to the neck.

V. *Preparations of Silver.*

The nitrate of silver [lunar caustic] though useful when employed in epilepsy, and some other diseases, is yet poisonous when swallowed. Applied externally, it is quite innocent. It may be known by the following characters: first, on exposing it to a red heat, the silver will be reduced; second, on dissolving it in water, the liquid will give a white precipitate with solution of common salt, and a yellow with the phosphate of soda.

Treatment.—Common salt is the best antidote against nitrate of silver. A person poisoned with this substance, therefore, should drink several glasses of salt and water—a table-spoonful to two pints of water. Vomiting will follow, and the symptoms will diminish. If by chance they continue, recourse should be had to leeches, emollient drinks, fomentations, and all the measures indicated in the treatment of poisoning by acids.

VI. *Nitre,* [*Saltpetre, Nitrate of Potash.*]

Distinctive Characters.—Thrown upon burning coals, nitre crackles, and gives a beautiful white flame; on the contrary, Glauber's salt, with which it is principally confounded, melts, puffs up, and becomes opake. Reduced to a fine powder, and mixed with the oil of vitriol, (sulphuric acid,) nitre gives out white vapours, which is not the case with Glauber's salt.

Effects when swallowed.—It gives rise to obstinate and bloody vomitings, to an active inflammation of the stomach, and consequently to the symptoms attending this inflammation. It also affects the nervous system, often occasioning a sort of intoxication, palsy of the limbs, convulsions, and other nervous diseases.

Treatment.—The same as for arsenic, (sect. III. II.) except that lime-water is not to be given. The after treatment the same as where acids are taken, (sect. I. IV.)

VII. *Muriate of Ammonia,* [*Sal-Ammoniac.*]

Symptoms when taken.—Vomitings, convulsive movements, a general stiffness, pains in the belly, alteration of the features, and death.

Treatment.—Vomiting should be immmediately induced by

swallowing several glasses of water, or of sugar and water; by introducing the fingers into the mouth, and by tickling the throat with a feather. The nervous affections should afterwards be calmed by anodynes, and inflammation counteracted by the usual means.

Distinctive Characters.—Exposed to heat, sal-ammoniac volatilizes, producing a white vapour; triturated with quicklime, it diffuses the odour of volatile alkali, or hartshorn dissolved in water; and mixed with the nitrate of silver, it occasions a very heavy white precipitate.

VIII. *Preparations of Barytes,* [*Protovide of Barytes, Muriate of Barytes, &c.*]

These preparations are extremely poisonous when taken into the stomach, or applied to wounds, occasioning vomitings, convulsions, palsy of the limbs, pains in the belly, hiccups, alteration of the countenance, and death.

Characters.—All the soluble preparations of barytes, mixed with well water, or with a solution of Glauber's or Epsom salts, gives a white precipitate, insoluble in water and in nitric acid.

Treatment.—A weak solution of sulphate of soda or sulphate of magnesia (Epsom salts) should immediately be swallowed—for example, half an ounce of either of these salts dissolved in a pint of water. If these are not at hand, well-water must be used. When this treatment shall have promoted vomiting, decomposed the poison, and calmed the principal symptoms, then some sugar and water should be given, or any other emollient drink. The after-treatment will be easily understood, by referring to the preceding sections.

IX. *Lytta,* [*Cantharides, Spanish Flies.*]

Symptoms when swallowed.—Nauseous odour on the breath; acrid and very disagreeable taste in the mouth; burning heat in the throat, stomach, and other parts of the abdomen; inclination to vomit, frequent vomitings, often mixed with blood; copious, and more or less bloody stools; excruciating pain in the belly, particularly towards the stomach; heat in the bladder and genitals; great difficulty in voiding urine, sometimes suppression of urine; pulse frequent and hard; occasional inability to swallow; at last frightful convulsions, delirium, and death.

Treatment.—The patient should drink a large glass of sweet oil to produce vomiting, or, in the want of this substance, several glasses of water, or, what is better, sugar and water, milk, decoction of mallows, or linseed tea. One or other of these emollient liquids should be injected into the bladder, to pre-

vent inflammation there. The symptoms of internal inflammation must be combated on general principles.

X. *Glass, or Enamel.*

These, when finely powdered, may be swallowed with impunity; but if they are in pointed fragments, they produce the same inconvenience as other sharp bodies, by lacerating and inflaming the mucous membrane of the stomach. In such cases, and where there are pains in the stomach, with heat and other symptoms, the person should eat large quantities of beans, potatoes, cabbage, bread, or any other aliment. By this means the stomach will be filled, and the glass involved. Two or three grains of tartarized antimony should then be given, dissolved in a glass of water. Vomiting will thus be excited, and the glass evacuated. Milk should afterwards be given, emollient clysters, fomentations, and warm bath. If inflammation of the stomach succeed, then it must be treated on general principles.

XI. *Preparations of Lead.—Superacetate of Lead, Cerusse, Litharge, Red Lead, Wine sweetened with Lead, &c.*

When a considerable dose of sugar of lead, or any other preparation of this kind, soluble in water, has been swallowed, the patient experiences a sugary, astringent, metallic, disagreeable taste; a constriction of the throat, pain in the region of the stomach, inclination to vomit, obstinate, painful, and often bloody vomitings, in short, all the symptoms which result from an inflammation of the stomach, or from taking corrosive sublimate. When taken gradually in small quantities, and long continued, it produces a chronic disease, resembling the painter's colic, but which, in certain circumstances, is true palsy.

Tests.—A salt of lead in solution, or water containing the metal, may be detected by pouring into it, first, some sulphuric acid, which will throw down a white precipitate; second, some sulphuretted hydrogen, which will produce a black deposit; lastly, the liquor will have a sugary taste.

Treatment.—Glauber's salt, Epsom salts, gypsum, or well-water, are the best antidotes of lead. The patient should therefore be treated as for the swallowing of barytes, (sect. VIII.)

Colica Pictonum.—It is well known that painters, plumbers, and others, whose occupations lie among lead, are affected with what has been termed the *Painter's Colic*, or dry belly-ache. The following mode of treatment has been found very useful: first day, a purgative clyster of infusion of senna with Epsom or Glauber's salts, giving the patient for drink a decoction of prunes, with Epsom salts, and small doses of antimonial wine. In the evening, an anodyne clyster of sweet oil and laudanum: second day, an emetic, six grains of tartarized antimony at two doses, fol-

lowing it with a sudorific potion of decoction of the woods, or barley-water.—In the evening, an anodyne clyster as before: third day, a gentle purgative mixture of senna, (see Appendix.) Fourth day, a purgative of salts, jalap, and syrup of buckthorn, with senna.—In the evening, the anodyne clyster: fifth day, the gentle purgative potion of the third day; the anodyne clyster in the evening: sixth day, same as the fourth. These measures may be succeeded by occasional doses of castor-oil. It is very rare that a treatment of this kind fails of curing the disease.

VEGETABLE POISONS

1. Irritating vegetable poisons, as wolf's-bane, meadow-saffron, scammony, gamboge, hellebore, &c. &c.—These possess more or less of an acrid, biting, bitter taste, occasioning burning and great dryness of the tongue, painful constriction of the throat, inclination to vomit and stool, more or less acute pains in the stomach, difficult and accelerated respiration, dilated pupil, great depression, violent convulsions, &c.

Treatment.—This does not differ in many cases from that which is necessary for corrosive sublimate, (sect. III. I) except that there is no advantage in giving the whites of eggs. No emetics of emetic tartar, or the like, should be given here.

2. The narcotic poisons, as opium, black and white henbane, prussic acid, laurel-water, &c.

Effects.—Stupor, numbness, drowsiness, a kind of drunkenness, dilated pupil, delirium, convulsions, palsy, full pulse, vomiting, death.

Treatment.—If the poison have been swallowed, four or five grains of emetic tartar, dissolved in water, should be given; and if vomiting do not take place in a quarter of an hour, twenty-four grains of sulphate of zinc, (white vitriol,) dissolved in a glass of water, and given in two doses at a quarter of an hour's interval, if the first does not produce the effect. If these means do not succeed, three or four grains of the sulphate of copper may be given, dissolved in a glass of water—always with the intention of expelling the poison either by vomiting or by stool. This should be promoted by introducing the fingers into the throat, or tickling it with a feather. All acids are hurtful, instead of beneficial, before the poison be expelled. If the poison have had time to pass into the bowels, purgative clysters should be given.

Suppose the patient has vomited entirely, or almost entirely, the poison, the disease might still prove mortal, if left to itself. Here we must alternately, every five minutes, give a cup of water, acidulated with vinegar, lemon-juice, or cream of tartar, and a cup of coffee. The numbness must be coun-

teracted by frictions. Blood-letting may be sometimes necessary.

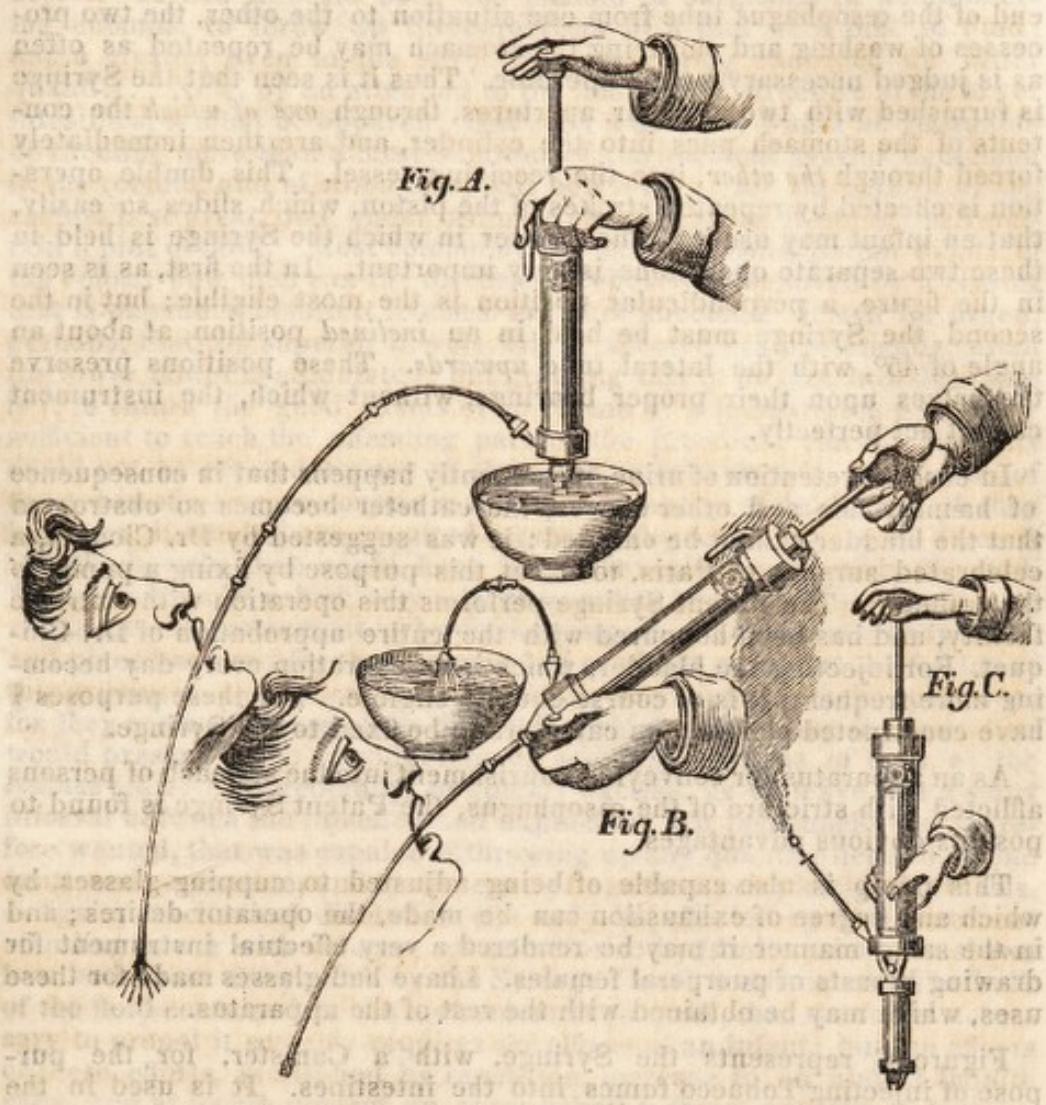
3. *Of Poisonous Mushrooms.*—These produce griping pains, inclination to vomit, purging, heat of stomach, languor, acute and almost continual pains, cramps, convulsive movements of different parts of the body, intense thirst, small, hard, and quick pulse, intoxication sometimes, with delirium and lethargy.

Treatment.—No acids to be given until the mushrooms have been ejected by vomiting and purging: three grains of emetic tartar should be given in a glass of water, and this should shortly be repeated, if unproductive of the desired effect. After copious vomiting, the remains of the poisonous substance should be carried off by purgatives. If these fail, a tobacco clyster should be given, which generally produces vomiting. After the evacuation, cordials should be given.

The subsequent treatment for inflammation, if it supervene, must be conducted on general principles. The above observations will apply to tobacco, deadly nightshade, thornapple, foxglove, hemlock, &c.

We have now presented our readers with a toxicological epitome, that may not be unworthy of their occasional perusal, and their constant reference in exigency. We have constructed it so, that the eye can catch in half a minute a view both of bane and antidote. And if our labour should prove instrumental in directing with celerity, consequently with efficacy, the means of relief to even a single fellow-creature writhing under the pangs of poison accidentally taken, or criminally administered, we have our reward.

In page 396, some notice was taken of Read's Stomach Syringe, accompanied with a promise that an engraving of this valuable instrument would be given in 405. This promise we now proceed to redeem; and, that our readers may have a correct idea of its nature, and the manner of its operation, we annex to the representation, the description given by the inventor, of its use and application.—Ed.]



DESCRIPTION OF READ'S PATENT STOMACH SYRINGE,

WITH DIRECTIONS FOR ITS USE.

THE apparatus consists of the pump; œsophagus tube; three leathern tubes; three ivory pipes, (these last, with the third leathern tube, are used only for Enemas;) and a detached brass socket. Figure A in the Engraving, represents the operation of injecting fluids into the stomach, to dilute the poison, previous to its extraction; this is effected in the following manner. Screw the two first lengths of the leathern tubing, to the *lateral* branch of the Syringe, and next the detached socket, to the extremity of the former. The œsophagus tube is now to be passed into the stomach, which being done, insert the brass joint at its extremity, into the socket at the end of the leathern tubes; the fluid to be injected being put into a basin or other shallow vessel, the end of the Syringe is immersed in it, and the piston being put into action, any quantity may be thrown into the stomach that may be desired.

To evacuate the stomach, separate the œsophagus tube from the socket (leaving the latter attached to the leathern tubes) without withdrawing it from the throat, and insert it into the extremity of the Syringe; let an assistant now hold a vessel to the end of the leathern tube, and by working the piston, the contents of the stomach may speedily be pumped

into it, as is shewn in figure B of the drawing. By thus transferring the end of the œsophagus tube from one situation to the other, the two processes of washing and emptying the stomach may be repeated as often as is judged necessary by the operator. Thus it is seen that the Syringe is furnished with two valvular apertures, through *one of which* the contents of the stomach pass into the cylinder, and are then immediately forced through *the other*, into the receiving vessel. This double operation is effected by repeated strokes of the piston, which slides so easily, that an infant may use it. The manner in which the Syringe is held in these two separate operations, is very important. In the first, as is seen in the figure, a perpendicular position is the most eligible; but in the second, the Syringe must be held in an *inclined* position, at about an angle of 45°, with the lateral tube *upwards*. These positions preserve the valves upon their proper bearings, without which, the instrument cannot act perfectly.

In cases of retention of urine, it frequently happens that in consequence of hæmorrhage and other causes, the catheter becomes so obstructed that the bladder cannot be emptied: it was suggested by Dr. Cloquet, a celebrated surgeon of Paris, to effect this purpose by fixing a pump to the catheter. The Patent Syringe performs this operation with extreme facility, and has been honoured with the entire approbation of Dr. Cloquet. For injecting the bladder, which is an operation every day becoming more frequent, it is of course equally eligible. For these purposes I have constructed elastic gum catheters to be fixed to the Syringe.

As an apparatus for conveying nourishment into the stomach of persons afflicted with stricture of the œsophagus, the Patent Syringe is found to possess obvious advantages.

This pump is also capable of being adjusted to cupping-glasses, by which any degree of exhaustion can be made, the operator desires; and in the same manner it may be rendered a very effectual instrument for drawing breasts of puerperal females. I have had glasses made for these uses, which may be obtained with the rest of the apparatus.

Figure C represents the Syringe, with a Canister, for the purpose of injecting Tobacco fumes into the intestines. It is used in the following manner. Unscrue the cap of the canister, and take out the perforated plunger; put in the tobacco, (half an ounce or an ounce,) and replace the plunger lightly upon it; then put on the cap, and screw it to the end of the Syringe; hold a lighted candle close under the bottom of the canister, and a stroke or two of the piston of the Syringe will light the tobacco. The enema tubes being now fixed to the side branch, and the pipe introduced into the rectum, the tobacco smoke is forced into the intestines as long as the Syringe is worked in the usual manner.

I have lastly to speak of my Syringe as an instrument for administering Enemas, which was the original intention for which it was constructed, and, in this point of view, it is of the highest importance.

The objects of administering Enemas, are considered to be of three kinds. 1st. For softening and diluting retained fæces. 2ndly. For stimulating the bowels, and thus provoking evacuations; and 3dly. For producing mechanical distention.

It must be obvious to every medical practitioner, how very inadequate the old apparatus of the pipe and bladder is to the completion of these objects; and thence it is, that various instruments have been at different times devised, to remedy the deficiency; but ingenuity had been exercised in vain, and the profession were still in need of an instrument to effect these valuable ends, until the "Patent Syringe" supplied the desired

object. It has hitherto been the custom of surgeons, in administering enemas, to throw up three-quarters of a pint or a pint of fluid; and a clyster, even in the severest cases, rarely exceeded the latter quantity. Now, by an attention to the anatomical structure of the lower intestines, it must be apparent, that such a quantity would be incapable of effecting more than a mere solution of the feculent matter contained in the rectum, and of stimulating this bowel only; for the calibre of the rectum is so great, that, under ordinary circumstances, it can of itself contain a pint of fluid. Most commonly the cause of constipation exists in the colon; how then can the disease be relieved or removed by a clyster that is expended before it reaches the part affected? It will be urged, perhaps, that the superior bowels will be affected sympathetically, when the lower bowel is stimulated; but granting this to be fact, how desirable is it to *ensure* the good effects of an enema by administering a quantity sufficient to reach the offending part of the intestinal canal! But this could not be effected by any of the existing instruments, as not one of them was of a size to contain a sufficient quantity of fluid; and if they had been, it would have required a greater degree of power to force it into the bowels, than could have been conveniently or safely directed. I may perhaps be asked, why a large quantity could not be applied by recharging the instrument, or by discharging other instruments ready filled, and placed at hand for that purpose? I need not point out the fallacy of this argument, to medical men, practically acquainted with the operation; for they are well aware of the difficulties which suspending the operation would present to the introduction of separate portions of fluid, as the *conatus ejiciendi* is, generally, so quickly excited, as to leave but a short interval between the injection and expulsion. An instrument was therefore wanted, that was capable of throwing up any quantity desired, in one continuous operation, and the Patent Syringe most completely effects this. —Again, mechanical distention can only be effected by an instrument affording power with volume; an attention to hydraulic principles shews how both these are yielded by the Syringe I have constructed. The bulk of the fluid contained in the instrument is so small, that the force necessary to propel it scarcely requires the efforts of an infant; but the effects of these efforts, multiplied by repetition, increase to an almost infinite ratio, and at length present an overwhelming force, capable of bearing down all opposition, and overcoming all natural restraints. To try the power of the Syringe, I fixed the injecting pipe firmly into the rectum of an animal that had been recently killed, and proceeded to pump into the bowels a large quantity of water, and I continued the operation with the same ease and freedom, until the intestinal canal, stretched beyond its tone, burst with the distening force.

Extracted from READ'S *Appeal to the Medical Profession.*

The above Instrument is sold by Mr. J. READ, the Patentee, No. 30, Bridgehouse Place, Newington Causeway, Southwark; and by most surgical instrument-makers in London, and other large towns.

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, as far as we yet know, all of the dog-kind, *viz.* 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 bit 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, shews 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, takes off, runs panting along with a kind of dejected air, and endeavours 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.

This disease is most frequent after long, dry, hot seasons; and such dogs as live upon putrid stinking carrion, without having enough of fresh water, are most liable to it.

When any person has been bit by a dog, the strictest 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 bit by a dog which they believed to he mad; but, as he had been killed on the spot, it was impossible to ascertain the fact. This should induce us, instead of killing a dog the moment he has bit any person, to do all in our power to keep him alive, at least till we can 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 upon by other dogs, and perhaps by men. The creature, thus frightened, beat, 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 infallibe 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 upon 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 bit by a dog that was really mad. He takes it, trusts to it, and is undone.

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 neighbouring 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. The common notion, that this poison may lie in the body for many years, and afterwards prove fatal, is both hurtful and ridiculous. It must render such persons as have had the misfortune to be bit very unhappy, and can have no good effects.

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 to fail, though in the space of thirty years he had used it a thousand times.

The Doctor's prescription is as follows:

"Take ash-coloured ground liverwort, cleaned, dried, and

[* The author has given the opinion and the treatment of the most eminent physicians of the last century: but we are now constrained to confess at this day, that we know no certain remedy for this dreadful disease. One case has died of it within a hundred yards of our door, while we have been preparing this chapter for publication. Cutting out the bitten part, or administering mercury, or both, (see page 410,) afford the best prospect of success.—Some, however, may object to this admission, and say, that many have been bitten by a mad dog, and yet cured by this or that remedy. The truth is, that a large portion of those who were really bitten are never affected with the disease. Mr. Hunter mentions an instance of twenty persons who suffered from the same dog, and yet only one was seized with it. It is therefore obvious, that different persons are not alike predisposed to be acted upon by the same contagion, and likewise that the predisposition to any contagion varies in the same person at different periods.—Ed.]

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."*

Dr. Mead says, that the virtue of his medicine consists in promoting urine. But how a poison should be expelled by urine, with only three or four doses of any medicine, however powerful, it is not easy to conceive. More time is certainly necessary, even though the medicine were more powerful than that which the Doctor prescribes

As these and most other medicines, taken singly, have frequently been found to fail, we shall recommend the following course:

If a person be bit 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.

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.

During the use of the mercurial ointment, the patient must keep within doors, and take nothing cold.

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* 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 bit 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.

A proper regimen must be observed throughout the whole course. The patient should abstain from flesh, and all salted and high-seasoned provisions. He must avoid strong liquors, and live mostly upon 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.

Mankind are extremely fond of every thing 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 bit 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 upon them for some time before its violent symptoms appear. The hydrophobia has been occasioned by the bite of a dog which shewed 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 abandon 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 honour 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 the 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 Cob'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 twenty-four 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 snake-root in powder; of camphor and asafœtida, 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, thirty-five 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 panado, 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 next poisonous animal which we shall mention, is the VIPER.† The grease of this animal, rubbed into the wound,

* 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 a considerable time, and in sufficient quantity.

[† ANIMAL POISONS.—*The Viper, Rattlesnake, Scorpion, Tarantula*, &c.

We notice, first, *their Effects*.—An acute pain felt in the wounded part, soon spreading to the whole limb, and afterwards to the interior of the body. A swelling, at first hard and pale, becomes red and livid, as if gangrenous, increasing and extending by degrees to the neighbouring parts. Faintings, vomitings, and convulsive movements, afterwards occur, and are sometimes followed by jaundice; the stomach becomes irritable, the pulse frequent, small, and irregular; the respiration difficult, with cold clammy sweats, derangement of vision and the intellectual faculties. When these symptoms have attained a certain height, inflammation and suppuration ensue in the wounded part, and, if the abscess be very considerable, the patient dies.

Treatment, (*external.*)—Moderately tight ligature above the bite, wound left to bleed after being washed with warm water. If inflammation be considerable, the ligature will be improper. The wound to be cauterized with a hot iron, lunar caustic, or butter of antimony. A mixture of one part of liquid ammonia and two parts of oil, applied on the swelled parts around the wound, has been found useful.

Treatment, (*internal.*)—Volatile alkali should be taken in any warm diluting drink, to bring out a perspiration, if possible. The patient should be placed in bed, and well covered. He may have a small glass of Madeira wine occasionally. Ipecacuanha, or emetic tartar, may be administered. If gangrene advance, the cinchona (Peruvian bark) must be given.

In several countries of America, a plant called guaco is employed by the Indians as a remedy for the bite of the numerous serpents which infest those regions.

is said to cure the bite. Though that is all the viper-catchers generally do when bit, 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 salad-oil. A poultice of bread and milk, softened with salad-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

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Into the nature of poisonous fishes we shall not enter, since we verily believe that the subject is as yet enveloped in the most impenetrable darkness, into which airy speculation and error only have found their way. In respect to treatment, emetics, we believe, are the only known antidotes, if they may be so called; after which, æther and other anti-spasmodics, with acids, are serviceable to recruit the nervous system after the shock of the poison.

For the same reason we shall decline entering on the nature and treatment of hydrophobia; believing the first to be unknown, and the second *inefficacious*. As a preventive of the rabid poison entering the system at large, we conceive that excision, or complete destruction of the parts, is the chief thing to be relied upon, and next to that, mercurial salivation, as ascertained by Mr. D. Johnson, many years a medical officer in the East Indies; who thus expresses himself on this subject. "In *every instance* where I had time or permission to impregnate the system with mercury after the infliction of the bite, and before the symptoms of hydrophobia shewed themselves, the latter were entirely prevented. If it be feared that I have been deceived on this point, I hope to dissipate such fears, by stating, that not a year passed at the station, (Chittrah,) in which I had not numbers to attend to, *bitten by the same animal.* Of these, there were some who, from religious prejudices, would not submit to the course of medicine I prescribed, preferring the prayers of the Brahmin priest; these regularly perished by the disease; while the others, bitten by the same animal, and at the same period of time, were invariably preserved from hydrophobia, where salivation was induced." The writer having said this, in the language of confidence, in favour of mercury, adds, "Neither salivation nor any other remedy has ever, in my experience, arrested the disease, when once it had commenced its destructive career."—Ed.]

* 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 salad-oil, which will secure him from even the least inconvenience. The *Psylli* 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 practise the same at this day.

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 salad-oil, or frequently repeated applications of pledgits 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 pledgits 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 every where, and often prove fatal to the ignorant and unwary. This indeed is chiefly owing to carelessness. Children ought early to be cautioned against eating any kind of fruit, roots, or berries, which they do not know; and all poisonous plants to which they can have access, ought, as far as possible, to be destroyed. This would not be so difficult a task as some people imagine.

Poisonous plants have no doubt their use, and they ought to be propagated in proper places; but, as they often prove destructive to cattle, they should be rooted out of all pasture-grounds. They ought likewise, for the safety of the human species, to be destroyed in the neighbourhood of all towns and villages; which, by the bye, are the places where they most commonly abound. I have seen the poisonous hemlock, henbane, wolfsbane, and deadly nightshade, all growing within the environs of a small town, where, though several persons, within the memory of those living in it, had lost their lives by one or other of these plants, yet no method, that I could hear of, had ever been taken to root them out; though this might be done at a very trifling 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 upon 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 every thing for a mushroom which has that appearance.

We might here mention many other plants and animals of a poisonous nature which are found in foreign countries; but, as our observations are chiefly intended for this island, we shall pass these 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 roots of plantain and horehound, in summer, roots and branches together, a sufficient quantity; bruise them in a mortar, and squeeze out the juice, of which give, as soon as possible, one large spoonful; if the patient be swelled, you must force it down his throat. This generally will cure; but, if he finds no relief in an hour after, you may give another spoonful, which never fails.—If the roots are dried, they must be moistened with a little water. To the wound may be applied a leaf of good tobacco moistened with rum.

We give this upon the faith of Dr. Brookes, who says it was the invention of a negro; for the discovery of which he had his freedom purchased, and a hundred pounds per annum settled upon him during his life, by the general assembly of Carolina.

It is possible there may be in nature specific remedies for every kind of poison; but as we have very little faith in any of those which have yet been pretended to be discovered, we shall beg leave again to recommend the most strict attention to the following rules, *viz.* That when any poisonous substance has been taken into the stomach, it ought, as soon as possible, to be discharged by vomits, clysters, and purges; or, what is best of all, by the stomach syringe,—see page 405.

CHAP. LII.

OF THE VENEREAL DISEASE.

In the first edition of this book, the venereal disease was omitted. The reasons, however, which at that time induced me to leave it out, have, upon more mature consideration, vanished. Bad consequences, no doubt, may arise from ignorant persons tampering with medicine in this disorder: but the danger from that quarter seems to be more than balanced by the great and solid advantages which must arise to the patient from an early knowledge of his case, and an attention to a plan of regimen, which, if it does not cure the disease, will be sure to render it more mild, and less hurtful to the constitution.

It is peculiarly unfortunate for the unhappy persons who contract this disease, that it lies under a sort of disgrace. This renders disguise necessary, and makes the patient either conceal his disorder altogether, or apply to those who promise a

sudden and secret cure; but who, in fact, only remove the symptoms for a time, while they fix the disease deeper in the habit. By this means, a slight infection, which might have been easily removed, is often converted into an obstinate, and sometimes incurable malady.

Another unfavourable circumstance attending this disease is, that it assumes a variety of different shapes, and may with more propriety be called an assemblage of diseases, than a single one. No two diseases can require a more different method of treatment than this does in its different stages. Hence the folly and danger of trusting to any particular nostrum for the cure of it. Such nostrums are, however, generally administered in the same manner to all who apply for them, without the least regard to the state of the disease, the constitution of the patient, the degree of infection, and a thousand other circumstances of the utmost importance.

Though the venereal disease is generally the fruit of unlawful embraces, yet it may be communicated to the innocent as well as to the guilty. Infants, nurses, midwives, and married women whose husbands lead dissolute lives, are often affected with it, and frequently lose their lives by not being aware of their danger in due time. The unhappy condition of such persons will certainly plead our excuse, if any excuse be necessary, for endeavouring to point out the symptoms and cure of this too common disease.

To enumerate all its different symptoms, however, and to trace the disease minutely through its various stages, would require a much larger space than falls to this part of my subject; I shall therefore confine my observations chiefly to circumstances of importance, omitting such as are either trifling, or which occur but seldom. I shall likewise pass over the history of the disease, with the different methods of treatment which it has undergone since it was introduced into Europe, and many other circumstances of a similar nature; all of which, though they might tend to amuse the reader, yet could afford him little or no useful knowledge.

Of the Virulent Gonorrhœa.

The virulent gonorrhœa is an involuntary discharge of infectious mucus from the parts of generation in either sex. It generally makes its appearance within eight or ten days after the infection has been received; sometimes indeed it appears in two or three days, and at other times not before the end of four or five weeks. Previous to the discharge, the patient feels an itching, with a small degree of pain in the genitals. Afterwards a thin glary matter begins to distil from the urinary passage, which stains the linen, and occasions a small degree of titillation, particularly at the time of making water; this, gra-

dually increasing, arises at length to a degree of heat and pain, which are chiefly perceived about the extremity of the urinary passage, where a slight degree of redness and inflammation likewise begins to appear.

As the disorder advances, the pain, heat of urine, and running, increase, while fresh symptoms daily ensue. In men, the erections become painful and involuntary, and are more frequent and lasting than when natural. This symptom is most troublesome when the patient is warm in bed. The pain which was at first only perceived towards the extremity, now begins to reach all up the urinary passage, and is most intense just after the patient has done making water. The running gradually recedes from the colour of seed, grows yellow, and at length puts on the appearance of mucus.

When the disorder has arrived at its height, all the symptoms are more intense; the heat of urine is so great, that the patient dreads the making water; and though he feels a constant inclination this way, yet it is rendered with the greatest difficulty, and often only by drops: the involuntary erections now become extremely painful and frequent; there is also a pain, heat, and sense of fulness about the seat, and the running is plentiful and sharp, of a brown, greenish, and sometimes of a bloody colour.

By a proper treatment, the violence of the symptoms gradually abates; the heat of urine goes off; the involuntary and painful erections, and the heat and pain about the seat, become easier; the running also gradually decreases, grows whiter and thicker, till at last it gradually disappears.

By attending to these symptoms, the gonorrhœa may be generally distinguished from any other disease. There are, however, some few disorders for which it may be mistaken, as an ulcer in the kidneys or bladder, the *fluor albus*, or whites, in women, &c.

Regimen.—When a person has reason to suspect that he has caught the venereal infection, he ought most strictly to observe a cooling regimen, to avoid every thing of a heating nature, as wines, spirituous liquors, rich sauces, spices, salted, high-seasoned, and smoke-dried provisions, &c. as also all aromatic and stimulating vegetables, as onions, garlic, shalot, nutmeg, mustard, cinnamon, mace, ginger, and such like. His food ought chiefly to consist of mild vegetables, milk, broths, light puddings, panado, gruels, &c. His drink may be barley-water, milk and water, decoctions of marsh-mallows and liquorice, linseed-tea, or clear whey. Of these he ought to drink plentifully. Violent exercise of all kinds, especially riding on horseback, and venereal pleasures, are to be avoided. The patient must beware of cold, and when the inflammation is violent, he ought to keep his bed.

MEDICINE.—A virulent gonorrhœa cannot always be cured speedily and effectually at the same time. The patient ought, therefore, not to expect, nor the physician to promise it. It will often continue for two or three weeks, and sometimes for five or six, even where the treatment has been very proper.

Sometimes, indeed, a slight infection may be carried off in a few days, by bathing the parts in warm milk and water, and injecting frequently up the urethra a little sweet oil or linseed-tea about the warmth of new milk. Should these not succeed in carrying off the infection, they will at least have a tendency to lessen its virulence.

To effect a cure, however, astringent injections will generally be found necessary. These may be various ways prepared, but I think those made with the white vitriol are both most safe and efficacious. They can be made stronger or weaker as circumstances may require; but it is best to begin with the more gentle, and increase their power if necessary. I generally order a drachm of white vitriol to be dissolved in eight or nine ounces of common or rose water, and an ordinary syringe-ful of it to be thrown up three or four times a day. If this does not perform a cure, it may be repeated, and the dose increased.

Although it is now very common to cure the gonorrhœa by astringent injections, there are still many practitioners which do not approve this mode of practice. I can, however, from much experience, assert, that it is both the most easy, elegant, and efficacious method of cure; and that any bad consequences arising from it must be owing to the ignorance or misconduct of the practitioner himself, and not to the remedy. Many, for example, use the strong preparations of lead, all of which are dangerous when applied to the internal surfaces of the body; others use escharotics, which inflame and injure the parts. I have known a gonorrhœa actually cured by an injection made of green tea, and would always recommend gentle methods where they will succeed.*

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* Whether injections be used or not, cooling purgatives are always proper in the gonorrhœa. If the patient can swallow a solution of salts and manna, he may take six drachms; or, if his constitution requires it, an ounce of the former, with half an ounce of the latter. These may be dissolved in an English pint of boiling water, whey, or thin water-gruel, and taken early in the morning.

If an infusion of senna and tamarinds be more agreeable, two drachms of the former, and an ounce of the latter, may be infused all night in an English pint of boiling water. The infusion may be strained next morning, and half an ounce of Glauber's salts dissolved in it. A teacupful of this infusion may be taken every half hour till it operates.

Should the patient prefer an electuary, the following will be found to answer very well. Take of the lenitive electuary four ounces, cream of tartar two ounces, jalap in powder two drachms, rhubarb one drachm, and as much of the syrup of pale roses as will serve to make up the whole into a soft electuary. Two or three teaspoonsful of this may be

When the inflammatory symptoms run high, bleeding is always necessary at the beginning. This operation, as in other topical inflammations, must be repeated according to the strength and constitution of the patient, and the vehemence and urgency of the symptoms.

Medicines which promote the secretion of urine are likewise proper in this stage of the disorder. For this purpose, an ounce of nitre and two ounces of gum-arabic, pounded together, may be divided into twenty-four doses, one of which may be taken frequently in a cup of the patient's drink. If these should make him pass his urine so often as to become troublesome to him, he may either take them less frequently, or leave out the nitre altogether, and take equal parts of gum-arabic and cream of tartar. These may be pounded together, and a teaspoonful taken in a cup of the patient's drink four or five times a day. I have generally found this answer extremely well, both as a diuretic, and for keeping the body gently open.

When the pain and inflammation are seated high, towards the neck of the bladder, it will be proper frequently to throw up an emollient clyster, which, besides the benefit of procuring stools, will serve as a fomentation to the inflamed parts.

Soft poultices, when they can conveniently be applied to the parts, are of great service. They may be made of the flour of linseed, or of wheat-bread and milk, softened with fresh butter or sweet oil. When poultices cannot be conveniently used, cloths wrung out of warm water, or bladders filled with warm milk and water, may be applied. I have often known the most excruciating pains, during the inflammatory state of the gonorrhœa, relieved by one or other of these applications.

Few things tend more to keep off inflammation in the spermatic vessels, than a proper suspensory for the scrotum. It ought to be so contrived as to support the testicles, and should be worn from the first appearance of the disease, till it has ceased some weeks.

The above treatment will sometimes remove the gonorrhœa so quickly, that the person will be in doubt whether he really laboured under that disease. This, however, is too favourable a turn to be often expected. It more frequently happens, that we are able only to procure an abatement or remission of the inflammatory symptoms, so far as to make it safe to have recourse to the great antidote *mercury*.

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taken over night, and about the same quantity next morning, every day that the patient chooses to take a purge.

The doses of the above medicines may be increased or diminished, according as the patient finds it necessary. We have ordered the salts to be dissolved in a large quantity of water, because it renders their operation more mild.

Many people, on the first appearance of a gonorrhœa, fly to the use of mercury. This is a bad plan. Mercury is often not at all necessary in a gonorrhœa; and, when taken too early, it does mischief. It may be necessary to complete the cure, but can never be proper at the commencement of it.

When bleeding, purging, fomentations, and the other things recommended as above, have eased the pain, softened the pulse, relieved the heat of urine, and rendered the involuntary erections less frequent, the patient may begin to use mercury in any form that is least disagreeable to him.

If he takes the common mercurial pill, two at night and one in the morning will be a sufficient dose at first. Should they affect the mouth too much, the dose must be lessened; if not at all, it may be gradually increased to five or six pills in the day. If calomel be thought preferable, two or three grains of it, formed into a bolus with a little of the conserve of hips, may be taken at bedtime.

The above medicines may either be taken every day, or every other day, as the patient is able to bear them. *They ought never to be taken in such quantity as to raise a salivation, unless in a very slight degree.* The disease may be more safely, and as certainly, cured without a salivation as with it. When the mercury runs off by the mouth, it is not so successful in carrying off the disease, as when it continues longer in the body, and is discharged gradually.

Should the patient be purged or griped in the night by the mercury, he must take an infusion of senna, or some other purgative, and drink freely of water-gruel, to prevent bloody stools, which are very apt to happen should the patient catch cold, or if the mercury has not been duly prepared. When the bowels are weak, and the mercury is apt to gripe or purge, these disagreeable consequences may be prevented by taking, with the above pills or bolus, half a drachm or two scruples of the Japonic confection.

To prevent the disagreeable circumstance of the mercury's affecting the mouth too much, or bringing on a salivation, it may be combined with purgatives. With this view the laxative mercurial pill has been contrived, the usual dose of which is half a drachm, or three pills, night and morning, to be repeated every other day; but the safer way is for the patient to begin with two, or even with one pill, gradually increasing the dose.

To such persons as can neither swallow a bolus nor a pill, mercury may be given in a liquid form, as it can be suspended even in a watery vehicle, by means of gum-arabic; which not only serves this purpose, but likewise prevents the mercury

from affecting the mouth, and renders it in many respects a better medicine.*

It happens very fortunately for those who cannot be brought to take mercury inwardly, and likewise for persons whose bowels are too tender to bear it, that an external application of it will answer equally well, and in some respects better. It must be acknowledged, that mercury, taken inwardly for any length of time, greatly weakens and disorders the bowels; for which reason, when a plentiful use of it becomes necessary, we would prefer rubbing to the mercurial pills. The common mercurial or blue ointment will answer very well. Of that which is made by rubbing together equal quantities of hog's-lard and quicksilver, about a drachm may be used at a time. The best time for rubbing it on is at night, and the most proper place the inner side of the thighs. The patient should stand before the fire when he rubs, and should wear flannel drawers next his skin at the time he is using the ointment. If ointment of a weaker or stronger kind be used, the quantity must be increased or diminished in proportion.

During this, which may be called the second stage of the disorder, though so strict a regimen is not necessary as in the first or inflammatory state, yet intemperance of every kind must be avoided. The food must be light, plain, and of easy digestion; and the greatest indulgence that may be allowed with respect to drink, is a little wine diluted with a sufficient quantity of water. Spirituous liquors are to be avoided in every shape. I have often known the inflammatory symptoms renewed and heightened, the running increased, and the cure rendered extremely difficult and tedious, by one fit of excessive drinking.

When the above treatment has removed the heat of urine and soreness of the genital parts; when the quantity of running is considerably lessened, without any pain or swelling in the groin or testicle supervening; when the patient is free from involuntary erections; and, lastly, when the running becomes pale, whitish, thick, void of ill smell, and tenacious or ropy; when all or most of these symptoms appear, the gonorrhœa is arrived at its last stage, and we may gradually proceed to treat it as a gleet, with astringent and agglutinating medicines.

Of Gleets.

A gonorrhœa frequently repeated, or improperly treated, often ends in a gleet, which may either proceed from a relax-

* Take quicksilver one drachm, gum-arabic reduced to a mucilage two drachms; let the quicksilver be rubbed with the mucilage, in a marble mortar, until the globules of mercury entirely disappear; afterwards add gradually, still continuing the trituration, half an ounce of balsamic syrup, and eight ounces of simple cinnamon-water. Two table-spoonsful of this solution may be taken night and morning. Some reckon this the best form in which quicksilver can be exhibited for the cure of a gonorrhœa.

ation, or from some remains of the disease. It is, however, of the greatest importance in the cure of the gleet, to know from which of these causes it proceeds. When the discharge proves very obstinate, and receives little or no check from astringent remedies, there is ground to suspect that it is owing to the latter; but if the drain is constant, and is chiefly observable when the patient is stimulated by lascivious ideas, or upon straining to go to stool, we may reasonably conclude that it is chiefly owing to the former.

In the cure of a gleet proceeding from relaxation, the principal design is to brace, and restore a proper degree of tension to, the debilitated and relaxed vessels. For this purpose, besides the medicines recommended in the gonorrhœa, the patient may have recourse to stronger and more powerful astringents, as the Peruvian bark,* alum, vitriol, galls, tincture of gum-kino, &c. The injections may be rendered more astringent by the addition of a few grains of alum, or increasing the quantity of vitriol as far as the parts are able to bear it.

The last remedy which we shall mention in this case, is the cold bath, than which there is not perhaps a more powerful bracer in the whole compass of medicine. It ought never to be omitted in this species of gleet, unless there be something in the constitution of the patient which renders the use of it unsafe. The chief objections to the use of the cold bath are a full habit, and an unsound state of the viscera. The danger from the former may always be lessened, if not removed, by purging and bleeding; but the latter is an insurmountable obstacle, as the pressure of the water, and the sudden contraction of the external vessels, by throwing the blood with too much force upon the internal parts, are apt to occasion ruptures of the vessels, or a flux of humours upon the diseased organs. But where no objection of this kind prevails, the patient ought to plunge over head in water every morning fasting, for three or four weeks together. He should not, however, stay long in the water, and should take care to have his skin dried as soon as he comes out.

The regimen proper in this case is the same as was mentioned in the last stage of the gonorrhœa: the diet must be drying and astringent, and the drink Spa, Pyrmont, or Bristol waters, with which a little claret or red wine may sometimes be mixed. Any person may now afford to drink these waters,

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* The Peruvian bark may be combined with other astringents, and prepared in the following manner:

Take of Peruvian bark bruised six drachms, of fresh galls bruised two drachms; boil them in a pound and a half of water to a pound: to the strained liquor add three ounces of the simple tincture of the bark. A small tea-cupful of this may be taken three times a day, adding to each cup fifteen or twenty drops of the acid elixir of vitriol.

as they can be every where prepared at almost no expense, by a mixture of common chalk and oil of vitriol.

The last kind of remedy which we shall mention for the cure of ulcers in the urinary passage, are bougies. As these are prepared various ways, and are generally to be bought ready made, it is needless to spend time in enumerating the different ingredients of which they are composed, or teaching the manner of preparing them. Before a bougie be introduced into the urethra, however, it should be smeared all over with sweet oil, to prevent it from stimulating too suddenly. It may be suffered to continue in from one to seven or eight hours, according as the patient can bear it. Obstinate ulcers are not only often healed, but tumors and excrescences in the urinary passages taken away, and an obstruction of urine removed, by means of bougies. Obstinate gleets may be removed by the use of bougies.

Of the Swelled Testicle.

The swelled testicle may either proceed from infection lately contracted, or from the venereal poison lurking in the body; the latter indeed is not very common, but the former frequently happens both in the first and second stages of a gonorrhœa; particularly when the running is unseasonably checked, by cold, hard drinking, strong drastic purges, violent exercise, the too early use of astringent medicines, or the like.

In the inflammatory stage, bleeding is necessary, which must be repeated according to the urgency of the symptoms.* The food must be light, and the drink diluting. High-seasoned food, flesh, wines, and every thing of a heating nature, are to be avoided. Fomentations are of singular service. Poultices of bread and milk, softened with fresh butter or oil, are likewise very proper, and ought constantly to be applied when the patient is in bed; when he is up, the testicles should be kept warm, and supported by a suspensory, which may easily be contrived in such a manner as to prevent the weight of the testicle from having any effect.

When these means do not succeed, and there is reason to suspect a scrofulous or cancerous habit, either of which may support a scirrhous induration after the venereal poison is corrected, the parts should be fomented daily with a decoction of hemlock, the bruised leaves of which may likewise be added to the poultice, and the extract at the same time taken inwardly.† This practice is strongly recommended by Dr. Storck in scir-

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* I have been accustomed for some time past to apply leeches to inflamed testicles, which practice has always been followed with the most happy effects.

† The extract of hemlock may be made into pills, and taken in the manner directed under the article Cancer.

rhous and cancerous cases; and Mr. Fordyce assures us, that by this method he has cured diseased testicles of two or three years standing, even when ulcerated, and when the scirrhus had begun to be affected with pricking and lancing pains.

Of Buboes.

Venereal buboes are hard tumors seated in the groin, occasioned by the venereal poison lodged in this part. They are of two kinds; *viz.* such as proceed from a recent infection, and such as accompany a confirmed lues.

The cure of recent buboes, that is, such as appear soon after impure coition, may be first attempted by *dispersion*, and, if that should not succeed, by *suppuration*. To promote the dispersion of a bubo, the same regimen must be observed as was directed in the first stage of a gonorrhœa. The patient must likewise be bled, and take some cooling purges, as the decoction of tamarinds and senna, Glauber's salts, and the like. If by this course the swelling and other inflammatory symptoms abate, we may safely proceed to the use of mercury, which must be continued till the venereal virus is quite subdued.*

But if the bubo should, from the beginning, be attended with great heat, pain, and pulsation, it will be proper to promote its suppuration. For this purpose the patient may be allowed to use his ordinary diet, and to take now and then a glass of wine. Emollient cataplasms, consisting of bread and milk softened with oil or fresh butter, may be applied to the part; and, in cold constitutions, where the tumor advances slowly, white lily-roots boiled, or sliced onions raw, and a sufficient quantity of yellow basilicon, may be added to the poultice.

When the tumor is ripe, which may be known by its conical figure, the softness of the skin, and a fluctuation of matter plainly to be felt under the finger, it may be opened either by a caustic or a lancet, and afterwards dressed with digestive ointment.

It sometimes however happens, that buboes can neither be dispersed nor brought to a suppuration, but remain hard indolent tumors. In this case the indurated glands must be consumed by caustic; if they should become scirrhous, they must be dissolved by the application of hemlock, both externally and internally, as directed in the scirrhous testicle.

Of Chancres.

Chancres are superficial, callous, eating ulcers; which may happen either with or without a gonorrhœa. They are commonly seated about the glands, and make their appearance in

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* For the dispersion of a bubo, a number of leeches applied to the part affected will be found equally efficacious as in the inflamed testicle.

the following manner: First, a little red pimple arises, which soon becomes pointed at top, and is filled with a whitish matter inclining to yellow. This pimple is hot, and itches generally before it breaks: afterwards it degenerates into an obstinate ulcer, the bottom of which is usually covered with a viscid mucus, and whose edges gradually become hard and callous. Sometimes the first appearance resembles a simple excoriation of the cuticle; which, however, if the cause be venereal, soon becomes a true chancre.

A chancre is sometimes a primary affection, but it is much oftener symptomatic, and is the mark of a confirmed lues. Primary chancres discover themselves soon after impure coition, and are generally seated in parts covered with a thin cuticle, as the lips, the nipples of women, the *glans penis* of men, &c.*

When a chancre appears soon after impure coition, its treatment is nearly similar to that of the virulent gonorrhœa. The patient must observe the cooling regimen, lose a little blood, and take some gentle doses of salts and manna. The parts affected ought frequently to be bathed, or rather soaked, in warm milk and water, and, if the inflammation be great, an emollient poultice or cataplasm may be applied to them. This course will, in most cases, be sufficient to abate the inflammation, and prepare the patient for the use of mercury.

Symptomatic chancres are commonly accompanied with ulcers in the throat, nocturnal pains, scurvy eruptions about the roots of the hair, and other symptoms of a confirmed lues. Though they may be seated in any of the parts mentioned above, they commonly appear upon the private parts, or the inside of the thigh. They are also less painful, but frequently much larger and harder, than primary chancres. As their cure must depend upon that of the pox, of which they are only a symptom, we shall take no further notice of them, till we come to treat of a confirmed lues.†

Thus we have related most of the symptoms which accompany or succeed a virulent gonorrhœa, and have also given a

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* When venereal ulcers are seated in the lips, the infection may be communicated by kissing. I have seen very obstinate venereal ulcers in the lips, which I have all the reason in the world to believe were communicated in this manner.

Nurses ought to beware of suckling infected children, or having their breasts drawn by persons tainted with the venereal disease. This caution is peculiarly necessary for nurses who reside in the neighbourhood of great towns.

† I have found it answer extremely well to sprinkle chancres twice a day with calomel. This will often perform a cure without any other application whatever. If the chancres are upon the *glans*, they may be washed with milk and water a little warm, and afterwards the calomel may be applied as above.

short view of their proper treatment; there are, however, several others which sometimes attend this disease, as a *strangury* or obstruction of urine, a *phymosis*, *paraphymosis*, &c.

A strangury may be occasioned either by a spasmodic constriction, or an inflammation, of the urethra and parts about the neck of the bladder. In the former case the patient begins to void his urine with tolerable ease; but, as soon as it touches the galled or inflamed urethra, a sudden constriction takes place, and the urine is voided by spurts, sometimes by drops only. When the strangury is owing to an inflammation about the neck of the bladder, there is a constant heat and uneasiness of the part, a perpetual desire to make water, while the patient can only render a few drops, and a troublesome *tenesmus*, or constant inclination to go to stool.

When the strangury is owing to spasm, such medicines as tend to dilute and blunt the salts of the urine will be proper. For this purpose, besides the common diluting liquors, soft and cooling emulsions, sweetened with the syrup of poppies, may be used. Should these not have the desired effect, bleeding and emollient fomentations will be necessary.

If these remedies should not relieve the complaint, and a total suppression of urine should come on, bleeding must be repeated, and the patient set in a warm bath up to the middle. It will be proper in this case to discontinue the diuretics, and to draw off the water with a catheter; but as the patient is seldom able to bear its being introduced, we would rather recommend the use of mild bougies. These often lubricate the passage, and greatly facilitate the discharge of urine. Whenever they begin to stimulate or give any uneasiness, they may be withdrawn.

The *phymosis* is such a constriction of the prepuce over the glans, as hinders it from being drawn backwards; the *paraphymosis*, on the contrary, is such a constriction of the prepuce behind the glans, as hinders it from being brought forward.

The treatment of these symptoms is so nearly the same with that of the virulent gonorrhœa, that we have no occasion to enlarge upon it. In general, bleeding, purging, poultices, and emollient fomentations, are sufficient. Should these, however, fail of removing the stricture, and the parts be threatened with a mortification, twenty or thirty grains of ipecacuanha, and one grain of emetic tartar, may be given for a vomit, and may be worked off with warm water or thin gruel.

It sometimes happens, that, in spite of all endeavours to the contrary, the inflammation goes on, and symptoms of a beginning mortification appear. When this is the case, the prepuce must be scarified with a lancet, and, if necessary, divided, in order to prevent a strangulation, and set the imprisoned glans at liberty. We shall not describe the manner of performing

this operation, as it ought always to be done by a surgeon. When a mortification has actually taken place, it will be necessary, besides performing the above operations, to foment the parts frequently with cloths wrung out of a strong decoction of camomile flowers and bark, and to give the patient a drachm of the bark in powder every two or three hours.

With regard to the *priapism*, *chordee*, and other distortions of the penis, their treatment is no way different from that of the gonorrhœa. When they prove very troublesome, the patient may take a few drops of laudanum at night, especially after the operation of a purgative through the day.

Of a confirmed Lues.

We have hitherto treated of those affections in which the venereal poison is supposed to be confined chiefly to the particular part by which it was received, and shall next take a view of the lues in its confirmed state; that is, when the poison is actually received into the blood, and, circulating with it through every part of the body, mixes with the several secretions, and renders the whole habit tainted.

The symptoms of a confirmed lues are, buboes in the groin, pains of the head and joints, which are peculiarly troublesome in the night, or when the patient is warm in bed; scabs and scurfs in various parts of the body, especially on the head, of a yellowish colour, resembling a honeycomb; corroding ulcers in various parts of the body, which generally begin about the throat, from whence they creep gradually, by the palate, towards the cartilage of the nose, which they destroy; excrescences or exostoses arise in the middle of the bones, and their spungy ends become brittle, and break upon the least accident; at other times they are soft, and bend like wax; the conglobate glands become hard and callous, and form in the neck, armpits, groin, and mesentery, hard moveable tumors, like the king's evil; tumors of different kinds are likewise formed in the lymphatic vessels, tendons, ligaments, and nerves, as the *gummata*, *ganglia*, *nodes*, *tophs*, &c.; the eyes are affected with itching, pain, redness, and sometimes with total blindness, and the ears with a singing noise, pain, and deafness, whilst their internal substance is exulcerated and rendered carious; at length all the animal, vital, and natural functions are depraved; the face becomes pale and livid; the body emaciated and unfit for motion; and the miserable patient falls into an atrophy or wasting consumption.

Women have symptoms peculiar to the sex; as cancers of the breast, a suppression or overflowing of the menses; the whites, hysteric affections; an inflammation, abscess, scirrhus, gangrene, cancer, or ulcer of the womb; they are generally either barren, or subject to abortion; or, if they bring children

into the world, they have an universal erysipelas, are half rotten, and covered with ulcers.

Such is the catalogue of symptoms attending this dreadful disease in its confirmed state. Indeed, they are seldom all to be met with in the same person, or at the same time; so many of them, however, are generally present as are sufficient to alarm the patient; and if he has reason to suspect the infection is lurking in his body, he ought immediately to set about the expulsion of it, otherwise the most tragical consequences will ensue.

The only certain remedy hitherto known in Europe, for the cure of this disease, is mercury, which may be used in a great variety of forms, with nearly the same success.* Some time ago it was reckoned impossible to cure a confirmed lues without a salivation. This method is now, however, pretty generally laid aside, and mercury is found to be as efficacious, or rather more so, in expelling the venereal poison, when administered in such a manner as not to run off by the salivary glands.

It is impossible to ascertain either the exact quantity of medicines that must be taken, or the time they ought to be continued, in order to perform a cure. These will ever vary according to the constitution of the patient, the season of the year, the degree of infection, the time it has lodged in the body, &c. But though it is difficult, as Astruc observes, to determine *à priori*, what quantity of mercury will, in the whole, be necessary to cure this distemper completely; yet it may be judged of *à posteriori*, from the abatement and ceasing of the symptoms. The same author adds, that commonly not less than two ounces of the strong mercurial ointment is sufficient, and not more than three or four ounces necessary.

The other chemical preparation of mercury which we shall take notice of, is the corrosive sublimate. This was some time ago brought into use for the venereal disease in Germany, by the illustrious Baron Van Swieten; and was soon after introduced into Britain by the learned Sir John Pringle, at that time physician to the army. The method of giving it is as follows: One grain of corrosive sublimate is dissolved in two ounces of French brandy or malt spirits; and of this solution, an ordinary table-spoonful, or the quantity of half an ounce, is to be taken twice a day, and to be continued as long as any symptoms of the disorder remain. To those whose stomach cannot bear the solution, the sublimate may be given in form of a pill.†

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* The preparations which I now chiefly use, in the confirmed *lues*, are calomel and calcined mercury.

† The sublimate may be given in distilled water, or any other liquid that the patient chooses. I commonly order ten grains to be dissolved

Several roots, woods, and barks, have been recommended for curing the venereal disease; but none of them have been found, upon experience, to answer the high encomiums which had been bestowed upon them. Though no one of these is to be depended upon alone, yet, when joined with mercury, some of them are found to be very beneficial in promoting a cure. One of the best we know yet is sarsaparilla, which may be prepared and taken according to the directions in the Appendix.*

The mezereon-root is likewise found to be a powerful assistant to the sublimate, or any other mercurial. It may either be used along with the sarsaparilla, as directed in the Appendix, or by itself. Those who choose to use the mezereon by itself, may boil an ounce of the fresh bark, taken from the root, in twelve English pints of water to eight, adding towards the end an ounce of liquorice. The dose of this is the same as of the decoction of sarsaparilla.

We have been told that the natives of America cure the venereal disease, in every stage, by a decoction of the root of a plant called the Lobelia. It is used either fresh or dried; but we have no certain accounts with regard to the proportion. Sometimes they mix other roots with it, as those of the ranunculus, the ceanothus, &c.; but whether these are designed to disguise or assist it, is doubtful. The patient takes a large draught of the decoction early in the morning, and continues to use it for his ordinary drink through the day.

GENERAL OBSERVATIONS.

The condition of the patient ought always to be considered, previous to his entering upon a course of mercury in any form. It would be equally rash and dangerous to administer mercury to a person labouring under any violent acute disease, as a putrid fever, pleurisy, peripneumony, or the like. It would likewise be dangerous in some chronic cases; as a slow hectic fever, or the last stage of a consumption. Sometimes, however, these diseases proceed from a confirmed lues; in which case it will be necessary to give mercury. In chronic diseases of a less dangerous nature, as the asthma, the gravel, and such like, mercury, if necessary, may be safely administered. If the patient's strength has been greatly exhausted by sickness, labour, abstinence, or any other cause, the use of mercury must be postponed, till by time, rest, and a nourishing diet, it can be sufficiently restored.

Mercury ought not to be administered to women during the

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in an ounce of the spirit of wine, for the convenience of carriage, and let the patient take twenty or thirty drops of it night and morning, in half a glass of brandy or other spirits.

* See Appendix, *Decoction of Sarsaparilla.*

menstrual flux, or when the period is near at hand. Neither should it be given in the last stage of pregnancy: if, however, the woman be not near the time of her delivery, and circumstances render it necessary, mercury may be given, but in smaller doses, and at greater intervals, than usual: with these precautions, both the mother and child may be cured at the same time; if not, the disorder will at least be kept from growing worse, till the woman be brought to bed, and sufficiently recovered, when a more effectual method may be pursued, which, if she suckles her child, will in all probability be sufficient for the cure of both.

Mercury ought always to be administered to infants with the greatest caution. Their tender condition unfits them for supporting a salivation, and makes it necessary to administer even the mildest preparations of mercury to them with a sparing hand. A similar conduct is recommended in the treatment of old persons, who have the misfortune to labour under a confirmed lues. No doubt, the infirmities of age must render people less able to undergo the fatigues of a salivation; but this, as was formerly observed, is never necessary; besides, we have generally found that mercury had much less effect upon very old persons, than on those who were younger.

The next thing to be considered is the preparation necessary to be observed before we proceed to administer a course of mercury. Some lay great stress upon this circumstance, observing, that by previously relaxing the vessels, and correcting any disorder which may happen to prevail in the blood, not only the mercury will be disposed to act more kindly, but many other inconveniences will be prevented.

A proper regimen is likewise to be observed by such as are under a course of mercury. Inattention to this, not only endangers the patient's life, but often also disappoints him of a cure. A much smaller quantity of mercury will be sufficient for the cure of a person who lives low, keeps warm, and avoids all manner of excess, than of one who cannot endure to put the smallest restraint upon his appetites: indeed, it but rarely happens that such are thoroughly cured.

There is hardly any thing of more importance, either for preventing or removing venereal infection, than cleanliness. By an early attention to this, the infection might often be prevented from entering the body; and, where it has already taken place, its effects may be greatly mitigated. The moment any person has reason to suspect that he has received the infection, he ought to wash the parts with water and spirits, sweet oil, or milk and water; a small quantity of the last may likewise be injected up the urethra, if it can be conveniently done. Whether this disease at first took its rise from dirtiness, is hard to say; but wherever that prevails, the infection is

found in its greatest degree of virulence, which gives ground to believe that a strict attention to cleanliness would go far towards extirpating it altogether.*

When the venereal disease has been neglected, or improperly treated, it often becomes a disorder of the habit. In this case, the cure must be attempted by restoratives, as a milk diet, the decoction of sarsaparilla, and such like, to which mercury may be occasionally added. It is a common practice in North Britain to send such patients to drink goat-whey. This is a very proper plan, provided the infection has been totally eradicated beforehand; but when that is not the case, and the patient trusts to the whey for finishing his cure, he will often be disappointed. I have frequently known the disease return with all its virulence after a course of goat-whey, even when that course had been thought quite sufficient for completing the cure.

One of the most unfortunate circumstances attending patients in this disease, is the necessity they are often laid under of hurrying the cure. This induces them to take medicine too fast, and to leave it off too soon. A few grains more of medicine, or a few days' longer confinement, would often be sufficient to perfect the cure; whereas, by neglect of these, a small degree of virulence is still left in the system, which gradually vitiates, and at length contaminates the whole mass. To avoid this, we would advise, that the patient should never leave off taking medicine immediately upon the disappearing of the symptoms, but continue it for some time after, gradually lessening the quantity, till there is sufficient ground to believe that the disease is entirely eradicated.

I never knew the cure attended with any great difficulty or danger where the patient strictly followed the physician's advice; but a volume would not be sufficient to point out the dreadful consequences which proceed from an opposite conduct. Scirrhous testicles, ulcerous sore throats, madness, consumptions, carious bones, and a rotten progeny, are a few of the *blessings* derived from this source.

There is a species of false reasoning, with regard to this disease, which proves fatal to many. A person of a sound constitution contracts a slight degree of the disorder. He gets well without taking any great care, or using much medicine,

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* Doctor Gilchrist has given an account of a species of the *lues venerea* which prevails in the west of Scotland, to which the natives give the name of *Sibbins* or *Sivvins*. The Doctor observes, that the spreading of this disease is chiefly owing to the neglect of cleanliness, and seems to think, that by due attention to this *virtue*, it might be extirpated. The treatment of this disease is similar to that of a confirmed lues or pox. The *yaws*, a disease which is now very common both in America and the West India islands, may also be cured in the same manner.

and hence concludes that this will always be the case. The next time the disease occurs, though ten times more virulent, he pursues the same course, and his constitution is ruined. Indeed, the different degrees of virulence in the small-pox are not greater than in this disease, though, as the learned Sydenham observes, in some cases the most skilful physicians cannot cure, and in others the most ignorant old woman cannot kill the patient in that disorder. Though a good constitution is always in favour of the patient, yet too great stress may be laid upon it. It does not appear, from observation, that the most robust constitution is able to overcome the virulence of the venereal contagion, after it has got into the habit. In this case, a proper course of medicine is always indispensably necessary.

Although it is impossible, on account of the different degrees of virulence, &c. to lay down fixed and certain rules for the cure of this disease, yet the following general plan will always be found safe, and often successful, *viz.* to bleed and administer gentle purges with diuretics during the inflammatory state, and, as soon as the symptoms of inflammation are abated, to administer mercury, in any form that may be most agreeable to the patient. The same medicine, assisted by the decoction of sarsaparilla, and a proper regimen, will not only secure the constitution against the further progress of a confirmed pox, but will generally perform a complete cure.

As I did not deem the venereal disease a proper subject of discussion in a book designed chiefly for regular families and the nursery, I left it out in the early editions of this work; but was afterwards prompted to introduce it, at the request of the publisher, and from a consideration that a little seasonable advice might be of material service in a complaint, which is often too long concealed through motives of shame and delicacy. I shall only add one remark, that though every apothecary's boy pretends to cure the venereal disease, there is not any one malady that requires more discrimination, nor any medicine that is more frequently misapplied than mercury. It is looked upon as a certain cure in every species of the disease, whereas it is only proper in one; and, even in this, unless it is given with great care, much mischief may be done. Mercury is too active a medicine to be administered at random, which is too often the case when intrusted to the hands of ignorance and self-sufficiency. But I must at the same time add, that when mercury is properly administered, it will never hurt the constitution, nor fail to cure the *lues venerea*

CHAP. LIII.

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 milk-maid, with the pale complexion of those females whose whole time is spent within doors. Though Nature has made an evident distinction between the male and female, with regard to bodily strength and vigour, yet she certainly never meant, either that the one should be always without, or the other always within doors.

The confinement of females, besides hurting their figure and complexion, relaxes their solids, weakens their minds, and disorders all the functions of the body. Hence proceed obstructions, indigestion, flatulence, abortions, and the whole train of nervous disorders. These not only unfit women for being mothers and nurses, but often render them whimsical and ridiculous. A sound mind depends so much upon a healthy body, that where the latter is wanting, the former is rarely to be found.

I have always observed, that women who were chiefly employed without doors, in the different branches of husbandry, gardening, and the like, were almost as hardy as their husbands, and that their children were likewise strong and healthy. But as the bad effects of confinement and inactivity upon both sexes have been already shewn, we shall proceed to point out those circumstances in the structure and design of females, which subject them to peculiar diseases; the chief of which are, their monthly evacuations, pregnancy, and child-bearing. These, indeed, cannot properly be called diseases; but, from the delicacy of the sex, and their being often improperly managed in such situations, they become the source of numerous calamities.

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 upon 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 vigour decline, and she sinks into a valetudinarian for life. Such is the fate of numbers of those unhappy females, who, either from too much indulgence, or their own narrow circumstances, are, at this critical period, denied the benefit of exercise and free air.

A lazy indolent disposition proves likewise very hurtful to girls at this period. One seldom meets with complaints from obstructions amongst the more active and industrious part of the sex; whereas the indolent and lazy are seldom free from them. These are in a manner eaten up by the *chlorosis*, or green-sickness, and other diseases of this nature. We would therefore recommend it to all who wish to escape their calamities, to avoid indolence and inactivity, as their greatest enemies, and to be as much abroad in the open air as possible.

Another thing which proves very hurtful to girls about this period of life, is unwholesome food. Fond of all manner of trash, they often indulge in it, till their whole humours are quite vitiated. Hence ensue indigestions, want of appetite, and a numerous train of evils. If the fluids be not duly prepared, it is utterly impossible that the secretions should go properly on. Accordingly we find, that such girls as lead an indolent life, and eat great quantities of trash, are not only subject to obstructions of the *menses*, but likewise to glandular obstructions; as the scrofula, or king's evil, &c.

A dull disposition is also very hurtful to girls at this period. It is a rare thing to see a sprightly girl who does not enjoy good health, while the grave, moping, melancholy creature proves the very prey of vapours and hysterics. Youth is the season for mirth and cheerfulness: let it therefore be indulged: it is an absolute duty. To lay in a stock of health in time of youth, is as necessary a piece of prudence, as to make pro-

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* It is the duty of mothers, and those who are intrusted with the education of girls, to instruct them early in the conduct and management of themselves at this critical period of their lives. False modesty, inattention, and ignorance of what is beneficial or hurtful at this time, are the sources of many diseases and misfortunes in life, which a few sensible lessons from an experienced matron might have prevented. Nor is care less necessary in the subsequent returns 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.

vision against the decays of old age. While, therefore, wise Nature prompts the happy youth to join in sprightly amusements, let not the severe dictates of hoary age forbid the useful impulse, nor damp with serious gloom the season destined to mirth and innocent festivity.

Another thing very hurtful to females about this period of life, is strait clothes. They are fond of a fine shape, and foolishly imagine that this can be acquired by lacing themselves tight. Hence, by squeezing the stomach and bowels, they hurt the digestion, and occasion many incurable maladies. This error is not indeed so common as it has been, but as fashions change, it may come about again; we therefore think it not improper to mention it. I know many females, who, to this day, feel the dreadful effects of that wretched custom which prevailed some years ago, of squeezing every girl into as small a size in the middle as possible. Human invention could not possibly have devised a practice more destructive to health.

After a female has arrived at that period of life when the *menses* usually begin to flow, and they do not appear, but, on the contrary, her health and spirits begin to decline, we would advise, instead of shutting the poor girl up in the house, and dosing her with steel, asafœtida, and other nauseous drugs, to place her in a situation where she can enjoy the benefit of free air and agreeable company. There let her eat wholesome food, take sufficient exercise, and amuse herself in the most agreeable manner; and we have little reason to fear, but Nature, thus assisted, will do her proper work. Indeed she seldom fails, unless where the fault is on our side.

This discharge in the beginning is seldom so instantaneous as to surprise females unawares. It is generally preceded by symptoms which foretel its approach; as a sense of heat, weight, and dull pain in the loins; distention and hardness of the breasts; headache; loss of appetite; lassitude; paleness of the countenance; and sometimes a slight degree of fever. When these symptoms appear about the age at which the menstrual flux usually begins, every thing should be carefully avoided which may obstruct that necessary and salutary evacuation; and all means used to promote it, as sitting frequently over the steam of warm water, drinking warm diluting liquors, &c.

After the *menses* have once begun to flow, the greatest care should be taken to avoid every thing that may tend to obstruct them. Females ought to be exceedingly cautious of what they eat or drink at the time they are out of order. Every thing that is cold, or apt to sour on the stomach, ought to be avoided; as fruit, buttermilk, and such like. Fish, and all kinds of food that are hard of digestion, are also to be avoided. As it is impossible to mention every thing that may disagree with individuals at this time, we would recommend it to every female to

be very attentive to what disagrees with herself, and carefully to avoid it.

Cold is extremely hurtful at this particular period. More of the sex date their diseases from colds caught while they are out of order, than from all other causes. This ought surely to put them upon their guard, and to make them very circumspect in their conduct at such times. A degree of cold that will not in the least hurt them at another time, will at this period be sufficient entirely to ruin their health and constitution.

The greatest attention ought likewise to be paid to the mind, which should be kept as easy and cheerful as possible. Every part of the animal economy is influenced by the passions, but none more so than this. Anger, fear, grief, and other affections of the mind, often occasion obstructions of the menstrual flux, which prove absolutely incurable.

As far as my observation goes, there are no women in the world so inattentive to this discharge as the English; and they suffer accordingly, as a very great number of them are obstructed, and many prove barren in consequence.

From whatever cause this flux is obstructed, except in the state of pregnancy, proper means should be used to restore it. For this purpose we would recommend sufficient exercise, in a dry, open, and rather cool air; wholesome diet, and, if the body be weak and languid, generous liquors; also cheerful company, and all manner of amusements. If these fail, recourse must be had to medicine.

When obstructions proceed from a weak relaxed state of the solids, such medicines as tend to promote digestion, to brace the solids, and assist the body in preparing good blood, ought to be used. For this purpose, I have of late made use of pills composed of prepared steel, powdered myrrh, and the best aloes, equal parts. These must be formed into pills of the common size, and two or three of them given every night at bed-time. The principal medicines, however, are iron, and the Peruvian bark, with other bitters and astringents. Filings of iron may be infused in wine, two or three ounces to an English quart, and after it has stood for two or three weeks, it may be filtered, and about half a wine-glass of it taken twice a day: or prepared steel may be taken in the dose of half a drachm, mixed with a little honey or treacle, three or four times a day. The bark and other bitters may either be taken in substance or infusion, as is most agreeable to the patient.

When obstructions proceed from a viscid state of the blood, or for women of a gross or full habit, evacuations, and such medicines as attenuate the humours, are necessary. The patient in this case ought to be bled, to bathe her feet frequently in warm water, to take now and then a cooling purge, and to live upon a spare thin diet. Her drink should be whey, water, or

small-beer, and she ought to take sufficient exercise. A 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 behaviour to females in this situation is also of the last importance.

An obstruction of the *menses* is often the effect of other maladies. When this is the case, instead of giving medicines to force that discharge, which might be dangerous, we ought by all means to endeavour to restore the patient's health and strength. When that is effected, the other will return of course.

But the menstrual flux may be too great as well as too small. When this happens, the patient becomes weak, the colour pale, the appetite and digestion are bad, to which œdematous swellings of the feet, dropsies, and consumptions, often ensue. This frequently happens to women about the age of forty-five or fifty, and is very difficult to cure. It may proceed from a sedentary life; a full diet, consisting chiefly of salted, high-seasoned, or acrid food; the use of spirituous liquors; excessive fatigue; relaxation; a dissolved state of the blood; violent passions of the mind, &c.

The treatment of this disease must be varied according to its cause. When it is occasioned by any error in the patient's regimen, an opposite course to that which induced the disorder must be pursued, and such medicines taken as have a tendency to restrain the 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 upon 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 colour; sometimes it is sharp and corrosive sometimes foul and fœtid, &c. It is attended with a pale complexion, pain in the back, loss of

appetite, swelling of the feet, and other signs of debility. It generally proceeds from a relaxed state of the body, arising from indolence, the excessive use of tea, coffee, or other weak and watery diet.

To remove this disease, the patient must take as much exercise as she can bear without fatigue. Her food should be solid and nourishing, but of easy digestion; and her drink rather generous, as red port or claret, mixed with Pyrmont, Bristol, or lime-water. Tea and coffee are to be avoided. I have often known strong broths have an exceeding good effect, and sometimes a milk diet alone will perform a cure. The patient ought not to lie too long abed. 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 customary evacuation, however small, is sufficient to disorder the whole frame, and often to destroy life itself. Hence it comes to pass, that so many women either fall into chronic disorders, or die, about this time. Such of them, however, as survive it, without contracting any chronic disease, often become more healthy and hardy than they were before, and enjoy strength and vigour to a very great age.

If the *menses* cease all of a sudden 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 ancles, 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 that state is often attended with a variety of complaints which merit attention,

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[* In addition to the above-mentioned remedies, we generally direct the patient to dissolve an ounce of alum in about a gallon of water, and apply it to the part affected several times a day: and we always urge attention to proper ablution. This method is exceedingly efficacious in our practice.—Ed.]

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 that 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 shewn. 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.

The signs of approaching abortion are, pain in the loins, or about the bottom of the belly; a dull heavy pain in the inside

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* 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 daily advertise their assistance to women in this business, deserve, in my opinion, the most severe of all human punishments.

of the thighs; a slight degree of coldness, or shivering; sickness; palpitation of the heart; the breasts become flat and soft; the belly falls; and there is a discharge of blood or watery humours from the womb.

To prevent abortion, we would advise women of a weak or relaxed habit to use solid food, avoiding great quantities of tea, and other weak and watery liquors; to rise early, and go soon to bed; to shun damp houses; to take frequent exercise in the open air, but to avoid fatigue; and never to go abroad in damp foggy weather, if they can shun it.

Women of a full habit ought to use a spare diet, avoiding strong liquors, and every thing that may tend to heat the body, or increase the quantity of blood. The diet should be of an opening nature, consisting principally of vegetable substances. Every woman with child ought to be kept cheerful and easy in her mind. Her appetites, even though depraved, ought to be indulged as far as prudence will permit.

When any signs of abortion appear, the woman ought to be laid in bed on a mattress, with her head low. She should be kept quiet, and her mind soothed and comforted. She ought not to be kept too hot, nor to take any thing of a heating nature. Her food should consist of broths, rice and milk, jellies, grueis 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 table-spoonsful of the saline mixture. In general, opiates are of service; but they should always be given with caution.

Sanguine robust women, who are liable to miscarry at a certain time of pregnancy, ought always to be bled a few days before that period arrives. By this means, and observing the regimen above prescribed, they might often escape that misfortune.

Though we recommend due care for preventing abortion, we would not be understood as restraining pregnant women from their usual exercises. 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 Child-birth.**

Many diseases proceed from the want of due care in child-bed; and the more hardy part of the sex are most apt to despise the necessary precautions in this state. This is peculiarly the case with young wives. They think, when the labour pains are ended, the danger is over: but in truth it may only then be said to be begun. Nature, if left to herself, will seldom fail to expel the *fœtus;* but proper care and management are certainly necessary for the recovery of the mother. No doubt, mischief may be done by too much as well as by too little care. Hence females who have the greatest number of attendants in child-bed, generally recover worst. But this is not peculiar to the state of child-bed. Excessive care always defeats its own intention, and is generally more dangerous than none at all.†

During actual labour, nothing of a heating nature ought to be given. The woman may now and then take a little panado, and her drink ought to be toast and water, or thin groat-gruel. Spirits, wines, cordial-waters, and other things which are given with a view to strengthen the mother, and promote the birth, for the most part tend only to increase the fever, inflame the womb, and retard the labour. Besides, they endanger the woman afterwards, as they often occasion violent and mortal hæmorrhages, or dispose her to eruptive and other fevers.

[* We are not aware that any circumstance endangers a woman's life at this period, so much as filling her mind with groundless fears. We happen to know, that many are guilty of this detestable quackery: they talk about *adhesions*, and the *child lying across*, &c. to shew their dexterity in removing a mischief which had no existence, except in their avaricious minds. If we could impress this truth on our female readers, we should accomplish the author's excellent wish expressed in page 440.

It is high time to procure legislative interference in behalf of qualified female midwives on these delicate occasions.—Ed.]

† Though the management of women in child-bed has been practised as an employment, since the earliest accounts of time, yet it is still in most countries on a very bad footing. Few women think of following this employment, till they are reduced to the necessity of doing it for bread. Hence, not one in a hundred of them have any education, or proper knowledge of their business. It is true, that Nature, if left to herself, will generally expel the *fœtus*; but it is equally true, that most women, in child-bed, require to be managed with skill and attention, and that they are often hurt by the superstitious prejudices of ignorant and officious midwives. The mischief done in this way is much greater than is generally imagined; most of which might be prevented by allowing no women to practise midwifery but such as are properly qualified. Were due attention paid to this, it would not only be the means of saving many lives, but would prevent the necessity of employing men in this indelicate and disagreeable branch of medicine, which is on many accounts more proper for the other sex.—We earnestly invite the attention of the community to the advice, the sensible advice, contained in this note; and we throw in our humble weight of experience in favour of its adoption.—Ed.]

When the labour proves tedious and difficult, to prevent inflammations, it will be proper to bleed. An emollient clyster ought likewise frequently to be administered, and the patient should sit over the steams of warm water. The passage ought to be gently rubbed with a little soft pomatum or fresh butter, and cloths wrung out of warm water applied over the belly. If nature seems to sink, and the woman is greatly exhausted with fatigue, a draught of generous wine, or some other cordial, may be given, but not otherwise. These directions are sufficient in natural labours; and in all preternatural cases, a skilful surgeon, or man-midwife, ought to be called as soon as possible.

After delivery, the woman ought to be kept as quiet and easy as possible.* Her food should be light and thin, as gruel, panado, &c. and her drink weak and diluting. To this rule, however, there are many exceptions. I have known several women, whose spirits could not be supported in child-bed without solid food and generous liquors; to such, a glass of wine and a bit of chicken must be allowed.

Sometimes an excessive hæmorrhage 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 be discontinued when 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 carraway-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.‡

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* We cannot help taking notice of that ridiculous custom, which still prevails in some parts of the country, of collecting a number of women together upon such occasions. These, instead of being useful, serve only to crowd the house, and obstruct the necessary attendants. Besides, they hurt the patient with their noise, and often, by their untimely and impertinent advice, do much mischief.

† 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-spoonsful 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.

An inflammation of the womb is a dangerous and not unfrequent disease after delivery. It is known by pains in the lower part of the belly, which are greatly increased upon touching; by the tension or tightness of the parts; great weakness; change of countenance; a constant fever, with a weak and hard pulse; a slight *delirium*, or raving; sometimes incessant vomiting; a hiccup; a discharge of reddish, stinking, sharp water from the 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 breasts, ought either to suckle her own child, or to have her breasts frequently drawn for the first month. This would prevent many of the diseases which prove fatal to women in child-bed.*

When an inflammation happens in the breast, attended with redness, hardness, and other symptoms of suppuration, the safest application is a poultice of bread and milk, softened with oil or fresh butter. This may be renewed twice a day, till the tumor be either discussed or brought to suppuration. The use of repellents, in this case, is very dangerous; they often occa-

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[* And it may also be observed, that when a woman regularly performs the natural duty of nursing her own offspring, (and this every mother is bound by nature's laws to do,) she may console herself for her trouble, by the reflection, that she will thereby be pretty certainly exempted from many formidable diseases, and perhaps from *cancer*, when she shall reach that time of life at which women are subject to its ravages.—Ed.]

sion fevers, and sometimes cancers; whereas a suppuration is seldom attended with any danger, and has often the most salutary effects.

When the nipples are fretted or chapped, they may be anointed with a mixture of oil and bees-wax, or a little powdered gum-arabic may be sprinkled on them. I have seen Hungary water, applied to the nipples, have a very good effect.* Should the complaint prove obstinate, a cooling purge may be given, which generally removes it.

The miliary fever is a disease incident to women in child-bed; but as it has been treated of already, we shall take no farther notice of it. The celebrated Hoffman observes, That this fever of child-bed women might generally be prevented, if they, during their pregnancy, were regular in their diet, used moderate exercise, took now and then a gentle laxative of manna, rhubarb, or cream of tartar; not forgetting to bleed in the first months, and avoid all sharp air. When the labour is coming on, it is not to be hastened with forcing medicines, which inflame the blood and humours, or put them into unnatural commotions. Care should be taken, after the birth, that the natural excretions 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 upon delivery is the *puerperal*, or child-bed, fever. It generally makes its attack upon the second or third day after delivery. Sometimes indeed it comes on sooner, and at other times, though rarely, it does not appear before the fifth or sixth day.

It begins, like most other fevers, with a cold or shivering fit, which is succeeded by restlessness, pain of the head, great sickness at the stomach, and bilious vomiting. The pulse is generally quick, the tongue dry, and there is a remarkable depression of spirits and loss of strength. A great pain is generally felt in the back, hips, and region of the womb; a sudden change in the quantity or quality of the *lochia* also takes place, and the patient is frequently troubled with a *tenesmus*, or constant inclination to go to stool. The urine, which is very high coloured, is discharged in small quantity, and generally with pain. The belly sometimes swells to a considerable bulk, and becomes susceptible of pain from the slightest touch. When the fever has continued for a few days, the symptoms of inflammation usually subside, and the disease acquires a more putrid form. At this period, if not sooner, a bilious or putrid

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[* The following liniment will generally be found useful: take of egg-shells powdered, one drachm; honey of roses, one ounce; spermaceti reduced to a fine powder, one drachm: mix these together, and make a liniment.—Ed.]

looseness, of an obstinate and dangerous nature, comes on, and accompanies the disease through alll its future progress.

There is not any disease that requires to be treated with more skill and attention than this; consequently the best assistance ought always to be obtained as soon as possible. In women of plethoric constitutions, bleeding will generally be proper at the beginning; it ought, however, to be used with caution, and not to be repeated, unless where the signs of inflammation rise high; in which case it will also be necessary to apply a blistering plaster to the region of the womb.

During the rigour, or cold fit, proper means should be used to abate its violence and shorten its duration. For this purpose, the patient may drink freely of warm diluting liquors, and, if low, may take now and then a cup of wine-whey; warm applications to the extremities, as heated bricks, bottles or bladders filled with warm water, and such like, may also be used with advantage.

Emollient clysters of milk and water, or of chicken water, ought to be frequently administered through the course of the disease. These prove beneficial, by promoting a discharge from the intestines, and also by acting as a kindly fomentation to the womb and parts adjacent. Great care, however, is requisite in giving them, on account of the tenderness of the parts in the *pelvis* at this time.

To evacuate the offending bile from the stomach, a vomit is generally given. But as this is apt to increase the irritability of the stomach, already too great, it will be safer to omit it, and to give in its stead a gentle laxative, which will both tend to cool the body, and to procure a free discharge of the bile.*

The medicine which I have always found to succeed best in this disease, is the saline draught. This, if frequently repeated, will often put a stop to the vomiting, and at the same time lessen the violence of the fever. If it runs off by stool, or if the patient be restless, a few drops of laudanum, or some syrup of poppies, may occasionally be added.

If the stools should prove so frequent, as to weaken and exhaust the patient, a starch clyster, with thirty or forty drops of laudanum in it, may be administered as occasion shall require; and the drink may be rice-water, in every English pint of which half an ounce of gum-arabic has been dissolved. Should these fail, recourse must be had to Columbo-root, or the powder of bole combined with opium.

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* Midwives ought to be very cautious in administering vomits or purges to women in child-bed. I have known a woman who was recovering extremely well, thrown into the most imminent danger, by a strong purge which was given her by an officious midwife.

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 third or fourth hour, as shall be found necessary.

To avoid this fever, every woman in child-bed ought to be kept perfectly easy; her food should be light and simple, and her bedchamber cool and properly ventilated. There is not any thing more hurtful to a woman in this situation than being kept too warm. She ought not to have her body bound too tight, nor to rise too soon from bed, after delivery; catching cold is also to be avoided; and a proper attention should be paid to cleanliness.

To prevent the milk-fever, the breasts ought to be frequently drawn; and if they are filled previous to the onset of a fever, they should, upon its first appearance, be drawn, to prevent the milk from becoming acrid, and its being absorbed in this state. Costiveness is likewise to be avoided. This will be best effected by the use of mild clysters and a laxative diet.

We shall conclude our observations on child-bed women, by recommending it to them, above all things, to beware of cold. Poor women, whose circumstances oblige them to quit their bed too soon, often contract diseases from cold, of which they never recover. It is a pity the poor are not better taken care of in this situation.

But the better sort of women run the greatest hazard, from too much heat. They are generally kept in a sort of bagnio for the first eight or ten days, and then dressed out to see company. The danger of this conduct must be obvious to every one.

The superstitious custom of obliging women to keep the house till they go to church, is likewise a very common cause of catching cold. All churches are damp, and most of them cold; consequently they are the very worst places to which a woman can go to make her first visit, after having been confined in a warm room for a month.

Of Sterility.

Sterility may be very properly reckoned among the diseases of females, as few married women, who have not children, en-

joy a good state of health. It may proceed from various causes, as high living, grief, relaxation, &c.; but it is chiefly owing to an obstruction or irregularity of the menstrual flux.

It is very certain that high living vitiates the humours, and prevents fecundity. We seldom find a barren woman among the labouring poor, while nothing is more common among the rich and affluent. The inhabitants of every country are prolific in proportion to their poverty; and it would be an easy matter to adduce many instances of women, who, by being reduced to live entirely upon a milk and vegetable diet, have conceived and brought forth children, though they never had any before. Would the rich use the same sort of food and exercise as the better sort of peasants, they would seldom have cause to envy their poor vassals and dependants the blessing of a numerous and healthy offspring, while they pine in sorrow for the want of even a single heir to their extensive domains.

Affluence begets indolence, which not only vitiates the humours, but induces a general relaxation of the solids; a state highly unfavourable to procreation. To remove this, we would recommend the following course: First, sufficient exercise in the open air; secondly, a diet consisting chiefly of milk and vegetables; thirdly, the use of astringent medicines, as steel, alum, elixir of vitriol, the chalybeate waters, Peruvian bark, &c.; and lastly, above all, the cold bath.

Barrenness is often the consequence of grief, sudden fear, anxiety, or any of the passions which tend to obstruct the menstrual flux. When barrenness is suspected to proceed from affections of the mind, the person ought to be kept as easy and cheerful as possible; all disagreeable objects are to be avoided, and every method taken to amuse and entertain the fancy.

I believe I have never written, and I hope I never shall write, any thing offensive to real modesty. Yet I have not suppressed, from motives of false delicacy, what I thought might be of 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 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. LIV.

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 upon him; and when it is, he often suffers as much from improper management as he would have done from neglect. Hence the officious care of parents, nurses, and midwives, becomes one of the most fruitful sources of the disorders of infants.*

It must be obvious to every attentive person, that the first diseases of infants arise chiefly from their bowels. Nor is this in the least to be wondered at, as they are in a manner poisoned with indigestible drugs and improper diet as soon as they come into the world. Every thing that the stomach cannot digest may be considered as a poison; and unless it can be thrown up, or voided by stool, it must occasion sickness, gripes, spasmodic affections of the bowels, or what the good women call inward fits, and, at last, convulsions and death.

As these symptoms evidently arise from somewhat that irritates the intestines, doubtless the proper method of cure must be to expel it as soon as possible. The most safe and effectual method of doing this is by gentle vomits. Five or six grains of the powder of ipecacuanha may be mixed in two table-spoonsful of water, and sweetened with a little sugar. A tea-spoonful of this may be given to the infant every quarter of an hour till it operates. 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, a 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.

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* Of the officious and ill-judged care of midwives, we shall adduce only one instance, viz. the common practice of torturing infants, by squeezing their breasts, to draw off the milk, as they call it. Though a small quantity of moisture is generally found in the breasts of infants, yet, as they are certainly not intended to give suck, this ought never to be drawn off. I have seen this cruel operation bring on hardness, inflammation, and suppuration of the breasts; but never knew any ill consequences from its being omitted. When the breasts are hard, the only application that we would recommend is a soft poultice, or a little of the diachylon plaster, spread thin upon a bit of soft leather, about the size of half-a-crown, and applied over each nipple. These may be suffered to continue till the hardness disappears.

If these medicines be properly administered, and the child's belly and limbs frequently rubbed with a warm hand before the fire, they will seldom fail to relieve those affections of the stomach and bowels from which infants suffer so much.

These general directions include most of what can be done for relieving the internal disorders of infants. They will likewise go a considerable way in alleviating those which appear externally, as the rash, *gum*, or *fellon*, &c.* These, as was formerly observed, are principally owing to too hot a regimen, and consequently will be most effectually relieved by gentle evacuations. Indeed, evacuations of one kind or other constitute a principal part of the medicine of infants, and will seldom, if administered with prudence, in any of their diseases, fail to give relief.†

Of the Meconium.

The stomach and bowels of a new-born infant are filled with a blackish-coloured matter of the consistence of syrup, commonly called the *meconium*. This is generally passed soon after the birth, by the mere effort of nature; in which case it is not necessary to give the infant any kind of medicine. But if it should be retained, or not sufficiently carried off, a little manna or magnesia 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 raw 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 shew an inclination for the breast, they would seldom have occasion for medicines to discharge the *meconium;* but even where this is not allowed, they ought never to have daubs of syrup, oils, and other indigestible stuff, crammed down their throats.

[* The *red gum* and *infantile jaundice* seldom require any other treatment than gentle evacuations, as castor oil or magnesia: we cannot but reprobate the practice of forcing food of all qualities upon infants, whereby their tender organs are injured, their several functions are deranged, and a foundation is laid for glandular and other obstructions, irritation in the bowels, and convulsions; and from this source it may be truly said, that "thousands from yet untasted life retire."—Ed.]

[† The ordinary source of infantile complaints has already been said to originate from something amiss in the first passages; and we are persuaded that a foundation is laid for them, from not duly attending to an early expulsion of that black viscid substance, called *meconium*. To remove this, and to act as an aperient on most occasions, perhaps no medicine is so generally applicable as castor oil.—We may add, that the meconium is in some rare cases retained, in consequence of the natural passage being closed up: a circumstance which is always attended with much danger, and which requires the immediate assistance of a skilful surgeon.—Ed.]

The Aphthæ, or Thrush.

The aphthæ are little whitish ulcers affecting the whole inside of the mouth, tongue, throat, and stomach of infants. Sometimes they reach through the whole intestinal canal; in which case they are very dangerous, and often put an end to the infant's life.

If the aphthæ are of a pale colour, pellucid, few in number, soft, superficial, and fall easily off, they are not dangerous; but if opake, yellow, brown, black, thick, or running together, they ought to be dreaded.

It is generally thought that the aphthæ owe their origin to acid humours; we have reason, however, to believe they are more frequently owing to too hot a regimen both of the mother and child. It is a rare thing to find a child who is not dosed with wine, punch, cinnamon-waters, or some other hot and inflaming liquors, almost as soon as it is born. It is well known that these will occasion inflammatory disorders even in adults; is it any wonder then that they should heat and inflame the tender bodies of infants, and set, as it were, the whole constitution on a blaze?

The most proper medicines for the aphthæ are vomits, such as have been already recommended, and gentle laxatives. Five grains of rhubarb, and half a drachm of magnesia, may be rubbed together, and divided into six doses, one of which may be given to the infant every four or five hours till they operate. These powders may either be given in the child's food, or a little of the syrup of pale roses, and may be repeated as often as is found necessary to keep the body open. It is common in this case to administer calomel; but as that medicine sometimes occasions gripes, it ought always to be given to infants with caution.

Many things have been recommended for gargling the mouth and throat in this disease: but it is not easy to apply these in very young children; we would therefore recommend it to the nurse to rub the child's mouth frequently with a little borax and honey; or with the following mixture: Take fine honey, an ounce; borax, a drachm; burnt alum, half a drachm; rose-water, two drachms: mix them together. A very proper application in this case, is a solution of ten or twelve grains of white vitriol in eight ounces of barley-water. These may be applied with the finger, or by means of a bit of soft rag tied to the end of a probe.

Of Acidities.

The food of children being for the most part of an acescent nature, it readily turns sour upon the stomach, especially if the body be any way disordered. Hence most diseases of

children are accompanied with evident signs of acidity, as green stools, gripes, &c. These appearances have induced many to believe, that all the diseases of children were owing to an acid abounding in the stomach and bowels; but whoever considers the matter attentively, will find that these symptoms of acidity are oftener the effect than the cause of their diseases.

Nature evidently intended, that the food of children should be acescent; and unless the body be disordered, or 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. shew 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. 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.

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

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* See Appendix, *Laxative absorbent Mixture.*

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 upon the galled parts once or twice a day.

Stoppage of the Nose.

The nostrils of infants are often plugged up with a gross mucus, which prevents their breathing freely, and likewise renders it difficult for them to suck or swallow.

Some in this case order, after a suitable purge, two or three grains of white vitriol dissolved in half an ounce of marjoram-water, and filtered, to be applied now and then to the nostrils with a linen rag. Wedellus says, if two grains of white vitriol, and the same quantity of *elaterium*, be dissolved in half an ounce of marjoram-water, and applied to the nose, as above directed, that it brings away the mucus without sneezing.

In obstinate cases, these medicines may be tried; but I have never found any thing necessary, besides rubbing the nose at bed-time with a little sweet oil or fresh butter. This resolves the filth, and renders the breathing more free.*

Of Vomiting.

From the delicate state of children, and the great sensibility of their organs, a vomiting or looseness may be induced by any thing that irritates the nerves of the stomach or intestines. Hence these disorders are much more common in childhood than in the more advanced periods of life. They are seldom, however, dangerous, and ought never to be considered as diseases, unless when they are violent, or continue so long as to exhaust the strength of the patient.

Vomiting may be excited by an over-quantity of food; by food that is of such a nature as to irritate the nerves of the stomach too much;† or by the sensibility of the nerves being

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* 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.

[† Of the different species of diet given to very young infants, none is more likely to cause this mischief than ill fermented wheaten bread boiled in rich milk. It may be here incidentally observed, that the light-

so much increased as to render them unable to bear the stimulus of even the mildest aliment.

When vomiting is occasioned by too much food, it ought to be promoted, as the cure will depend upon cleansing the stomach. This may be done either by a few grains of ipecacuanha, or a weak solution of emetic tartar, as mentioned before. When it is owing to food of an acrid or irritating quality, the diet ought to be changed, and aliment of a milder nature substituted in its stead.

When vomiting proceeds from an increased degree of sensibility, or too great an irritability of the nerves of the stomach, such medicines as have a tendency to brace and strengthen that organ, and to abate its sensibility, must be used. The first of these intentions may be answered by a slight infusion of the Peruvian bark, with the addition of a little rhubarb and orange-peel; and the second by the saline draughts, to which a few drops of liquid laudanum may occasionally be added.

In obstinate vomitings, the operation of internal medicines may be assisted by aromatic fomentations made with brandy, applied warm to the pit of the stomach; or the use of the stomach-plaster, with the addition of a little opium.

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 humours, which would otherwise tend to relax the habit.

As the principal intention of the cure of a looseness is to evacuate the offending matter, it is customary to give the patient a gentle vomit of ipecacuanha, and afterwards to exhibit small and frequent doses of rhubarb; interposing absorbent medicines, to mitigate the acrimony of the humours. The best purge, however, in this case, is magnesia. It is at the same time absorbent and laxative, and operates without exciting gripes.

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est, most digestible, nutritious, and safe diet, which an infant can receive, is found in the several preparations of oats, such as gruel, stirabout, &c. —Let it be observed, that laudanum in any form, whether in quack medicines or any other, is inadmissible; but it is easier to convince parents than nurses of the truth of this remark.—Ed.]

The antimonial wine, which acts both as an emetic and purge, is also an excellent medicine in this case. By being diluted with water, it may be proportioned to the weakest constitution, and, not being disagreeable to the palate, it may be repeated as often as occasion requires. Even one dose will frequently mitigate the disease, and pave the way for the use of absorbents. If, however, the patient's strength will permit, the medicine ought to be repeated every six or eight hours, till the stools begin to assume a more natural appearance; afterwards a longer space may be allowed to intervene between the doses. When it is necessary to repeat the medicine frequently, the dose ought always to be a little increased, as its efficacy is generally diminished by use.

Some, upon the first appearance of a looseness, fly immediately to the use of absorbent medicines and astringents. If these be administered before the offending humours are discharged, though the disease may appear to be mitigated for a little time, it soon afterwards breaks forth with greater violence, and often proves fatal. After proper evacuations, however, these medicines may be administered with considerable advantage.

Should any gripings or restlessness remain after the stomach and bowels have been cleansed, a tea-spoonful of the syrup of poppies may be given in a little simple cinnamon water three or four times a day, till these symptoms have ceased.

Purulent Eye.

[In new-born infants, a peculiar inflammation of the eyelids, very remarkable for its suddenness and rapidity, is sometimes seen. These parts become red and swollen, and a yellow, thick, purulent matter is discharged, which sometimes covers the whole front of the eyeball.

The inflammation commences with a slight redness on the inside of the eyelids, particularly about the inner corner; one or both eyes are soon covered with a thin viscid matter, which quickly thickens, fastens the eyelids together, and, when they are forcibly opened, a large gush of tears succeeds: they soon swell, and in some cases, even in spite of judicious treatment, the disease appears to increase for many days. Sometimes the child is affected from its mother, at other times it is produced by unwholesome atmosphere, but most commonly by a *defect* of *cleanliness*. Hence the disease is found to prevail mostly among the lower classes of society, who, we may naturally suppose, are not so attentive to our rules on cleanliness, (see fluor albus) as those in a higher sphere of life.

The *treatment* of this disease consists in subduing inflammation by frequently washing away, with warm milk and water, the morbid discharge, with a sponge or a syringe,—by applying a poultice of curds of milk, coagulated with alum, and renewing it

many times a day,—by the application of a very weak solution of the sulphate of zinc to the eyes, either on rags or with a syringe,—and by giving internally from half a grain to a grain of calomel daily for a week or two; occasionally adding a dose of castor oil or magnesia.—Ed.]

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 humours, which, if retained, might produce fatal disorders.

The eruptions of children are chiefly owing to improper food and neglect of cleanliness. If a child be stuffed at all hours with food that its stomach is not able to digest, such food, not being properly assimilated, instead of nourishing the body, fills it with gross humours. These must either break out in form of eruptions upon the skin, or remain in the body, and occasion fevers and other internal disorders. That neglect of cleanliness is a very general cause of eruptive disorders, must be obvious to every one. The children of the poor, and of all who despise cleanliness, are almost constantly found to swarm with vermin, and are generally covered with the scab, itch, and other eruptions.

When eruptions are the effect of improper food, or want of cleanliness, a proper attention to these alone will generally be sufficient to remove them. If this should not be the case, some drying medicines will be necessary. When they are applied, the body ought at the same time to be kept open, and cold is carefully to be avoided. We know no medicine that is more safe for drying up cutaneous eruptions than sulphur, provided it be prudently used. A little of the flowers of sulphur may be mixed with fresh butter, oil, or hog's lard, and the parts affected frequently touched with it.

The most obstinate of all the eruptions incident to children are, the *tenea 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

* I some time ago saw a very striking instance of the danger of substituting drying medicines in the place of cleanliness and wholesome food, in the Foundling Hospital at Ackworth, where the children were grievously afflicted with scabbed heads, and other cutaneous disorders. Upon inquiry, it was found that very little attention was paid either to the propriety or soundness of their provisions, and that cleanliness was totally neglected; accordingly it was advised that they should have more

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 soap suds, and gently anointed with a liniment made of train oil eight ounces, red precipitate in fine powder one drachm. And if there be proud flesh, it should be touched with a bit of blue vitriol, or sprinkled with a little burnt alum. While these things are doing, the patient must be confined to a regular light diet, the body should be kept gently open; and cold, as far as possible, ought to be avoided. To prevent any bad consequences from stopping this discharge, it will be proper, especially in children of a gross habit, to make an issue in the neck or arm, which may be kept open till the patient becomes more strong, and the constitution be somewhat mended.

Chilblains commonly attack children in cold weather. They are generally occasioned by the feet or hands being kept long wet or cold, and afterwards suddenly heated. When children are cold, instead of taking exercise to warm themselves gradually, they run to the fire. This occasions a sudden rarefaction of the humours, and an infraction of the vessels; which, being often repeated, the vessels are at last over-distended, and forced to give way.

To prevent it, violent cold and sudden heat must be equally avoided. When the parts begin to look red and swell, the patient ought to be purged, and to have the affected parts frequently rubbed with mustard and brandy, or something of a warming nature. They ought likewise to be covered with flannel, and kept warm and dry. Some apply warm ashes between cloths to the swelled parts, which frequently help to reduce them. When there is a sore, it must be dressed with Turner's cerate, the ointment of tutty, the plaster of cerus, or some other drying ointment. These sores are indeed troublesome, but seldom dangerous. They generally heal as soon as the warm weather sets in.

Of the Croup.

Children are often seized very suddenly with this disease, which, if not quickly relieved, proves mortal. It is known by various names in different parts of Britain. On the east coast of Scotland, it is called the *croup*. On the west, they call it

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wholesome food, and be kept thoroughly clean. This advice, however, was not followed: it was too troublesome to the servants, superintendants, &c. The business was to be done by medicine; which was accordingly attempted, but had nearly proved fatal to the whole house. Fevers, and other internal disorders, immediately appeared, and at length a putrid dysentery, which proved so infectious, that it carried off a great many of the children, and spread over a considerable part of the neighbouring country.

the *chock* or *stuffing*. In some parts of England, where I have observed it, the good women call it the *rising of the lights*. It seems to be a species of *asthma*, attended with very acute and violent catarrhal symptoms.

This disease generally prevails in cold and wet seasons. It is most common upon the sea-coast, and in low marshy countries. Children of a gross and lax habit are most liable to it. I have sometimesknown 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 any thing that obstructs the perspiration, may occasion the croup.

It is attended with a frequent pulse, quick and laborious breathing, which is performed with a peculiar kind of croaking noise, that may be heard at a considerable distance. The voice is sharp and shrill, and the face is generally much flushed, though sometimes it is of a livid colour.

When a child is seized with the above symptoms, his feet should immediately be put into warm water. He ought likewise to be bled, and to have a laxative clyster administered as soon as possible, He should be made to breathe over the steams of warm water and vinegar; or an emollient decoction, and emollient cataplasms or fomentations, may be applied round his neck. If the symptoms do not abate, a blistering-plaster must be applied round the neck, or between the shoulders, and the child may take frequently a table-spoonful of the following julep: Take penny royal water, syrup of althea and of poppies, each one ounce; mix them together.*

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.

[* The *croup* is a high inflammation of the upper part of the wind-pipe, as the peripnemony is of the lower part of the same organ. It originates from the same sources as other inflammations, and must be treated by the same means, as early as possible. Apply a dozen leeches to the throat; and it may be needful to repeat this the following day: a blister should surround the neck; the most active purges, preceded by an emetic, should be administered; and from ten to thirty drops of antimonial wine given frequently in the patient's drink.—Ed.]

Of Teething.

Dr. Arbuthnot observes, that above a tenth part of infants die in teething, by symptoms proceeding from the irritation of the tender nervous parts of the jaws, occasioning inflammations, fevers, convulsions, gangrenes, &c. These symptoms are in a great measure owing to the great delicacy and exquisite sensibility of the nervous system at this time of life, which is too often increased by an effeminate education. Hence it comes to pass, that children who are delicately brought up, always suffer most in teething, and often fall by convulsive disorders.

About the sixth or seventh month the teeth generally begin to make their appearance; first, the *incisores*, or fore-teeth; next the *canini*, or dog-teeth; and, lastly, the *molares*, or grinders. About the seventh year, there comes a new set; and about the twentieth, the two inner grinders, called *dentes sapientiæ*, the teeth of wisdom.

Children about the time of cutting their teeth, slaver much, and have generally a looseness. When the teething is difficult, especially when the dog-teeth begin to make their way through the gums, the child has startings in his sleep, 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, rhubarb, senna, or the like. The food should be light, and in small quantity; the drink plentiful, but weak and diluting, as infusions of balm, or of the lime-tree flowers; to which about a third or fourth part of milk may be added.*

If the fever be high, bleeding will be necessary; but this in very young children ought to be sparingly performed. It is an evacuation which they bear the worst of any. Purging, vomiting, or sweating agree much better with them, and are generally more beneficial. Harris, however, observes, that when an inflammation appears, the physician will labour in vain, if the cure be not begun with applying a leech under each ear. If the child be seized with convulsion fits, a blister-

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[* The evils arising from dentition are often prevented or greatly alleviated by spontaneous diarrhœa, in consequence of its lessening the quantity of blood in the system, and diminishing the strong action of the heart and arteries. In children whose constitutions are disposed to plethora, (which may be known by their florid complexion and fulness,) it will therefore be proper to encourage any spontaneous diarrhœa that may arise, unless it runs to excess; but where none arises naturally, we ought then to give gentle purgatives, as recommended in the above paragraph.—Ed.]

ing-plaster may be applied between the shoulders, or one behind each ear,

Sydenham says, that in fevers occasioned by teething, he never found any remedy so effectual as two, three, or four drops of spirits of hartshorn in a spoonful of simple water, or other convenient vehicle, given every four hours. The number of doses may be four, five, or six. I have often prescribed this medicine with success, but always found a larger dose necessary. It may be given from five drops to fifteen or twenty, according to the age of the child, and, when costiveness does not forbid it, three or four drops of laudanum may be added to each dose.

In Scotland, it is very common, when children are cutting their teeth, to put a small Burgundy-pitch plaster between their shoulders. This generally eases the tickling cough which attends teething, and is by no means a useless application. When the teeth are cut with difficulty, it ought to be kept on during the whole time of teething. It may be enlarged as occasion requires, and ought to be renewed at least once a fortnight.

Several things have been recommended for rubbing the gums, as oils, mucilages, &c.; but from these much is not to be expected. If any thing of this kind is to be used, we would recommend a little fine honey, which may be rubbed on with the finger three or four times a day. Children are generally at this time disposed to chew whatever they get into their hands. For this reason they ought never to be without somewhat that will yield a little to the pressure of their gums, as a crust of bread, a wax candle, a bit of liquorice-root, or such like.

With regard to cutting the gums, we have seldom known it of any great benefit. In obstinate cases, however, it ought to be tried. It may be performed by the finger-nail, the edge of a sixpenny piece that is worn thin, or any sharp body which can be with safety introduced into the mouth; but the lancet, in a skilful hand, is certainly the most proper.

In order to render the teething less difficult, parents ought to take care that their children's food be light and wholesome, and that their nerves be braced by sufficient exercise without doors, the use of the cold bath, &c. Were these things duly regarded, they would have a much better effect than *teething 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 em-

ployments, by which means they neglect either to take proper exercise themselves, or to give it to their children.

Causes.—One cause of the rickets is, diseased parents. Mothers of a weak relaxed habit, who neglect exercise, and live upon weak watery diet, can neither be expected to bring forth strong and healthy children, or to be able to nurse them after they are brought forth. Accordingly, we find that the children of such women generally die of the rickets, the scrofula, consumptions, or such-like diseases. Children begotten by men in the decline of life, who are subject to the gout, the gravel, or other chronic diseases, or who have been often afflicted with the venereal disease in their youth, are likewise very liable to the rickets.

Any disorder that weakens the constitution or relaxes the habit of children, as the small-pox, measles, teething, the hooping-cough, &c. disposes them to this disease. It may likewise be occasioned by improper diet, as food that is either too weak and watery, or so viscid that the stomach cannot digest it.

Bad 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 ancles become thicker than usual; the spine or back-bone 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 flesh. If the child be too young for flesh meats, he may have rice, millet, or pearl-barley, boiled with raisins, to which may be added a little wine and spice. His drink may be good claret, mixed with an equal quantity of water. Those who cannot afford claret, may give the child now and then a wine-glass of mild ale, or good porter.

Medicine.—Medicines are here of little avail. This disease may often be cured by the nurse, but seldom by the physician. In children of a gross habit, gentle vomits and repeated purges of rhubarb may sometimes be of use, but they will seldom carry off the disease; that must depend chiefly upon such things as brace and strengthen the system: for which purpose, besides the regimen mentioned above, we would recommend the cold bath, especially in the warm season. It must however be used with prudence, as some 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 humours. An infusion of the Peruvian bark in wine or ale would be of service, were it possible to bring children to take it. We might here mention many other medicines which have been recommended for the rickets; but as there is far more danger in trusting to these than in neglecting them altogether, we choose rather to pass them over, and to recommend a proper regimen as the thing chiefly to be depended on.

Of Convulsions.

Though more children are said to die of convulsions than of any other disease, yet they are for the most part only a symptom of some other malady. Whatever greatly irritates or stimulates the nerves, may occasion convulsions. Hence infants whose nerves are easily affected, are often thrown into convulsions by any thing that irritates the alimentary canal: likewise by teething, strait clothes, the approach of the small-pox, measles, or other eruptive diseases.

When convulsions proceed from an irritation of the stomach or bowels, whatever clears them of their acrid contents, or renders these mild and inoffensive, will generally perform a cure; wherefore, if the child be costive, the best way will be to begin with a clyster, and afterwards to give a gentle vomit, which may be repeated occasionally, and the body in the mean time kept open by gentle doses of magnesia, or small quantities of rhubarb mixed with the powder of crabs' claws.

Convulsions which precede the eruption of the small-pox or measles, generally go off upon these making their appearance. The principal danger in this case arises from the fears and apprehensions 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 cutting of teeth, besides gentle evacuations, we would recommend blistering, and the use of antispasmodic medicines, as the tincture of soot, asafœtida, 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, as long as the cause which first gave rise to the disorder continues to act.

When a child is seized with convulsions, without having any complaint in the bowels, or symptoms of teething; or any rash or other discharge which has been suddenly dried up; we have reason to conclude that it is a primary disease, and proceeds immediately from the brain. Cases of this kind, however, happen but seldom; which is very fortunate, as little can be done to relieve the unhappy patient. When a disease proceeds from an original fault in the formation or structure of the brain itself,

we cannot expect that it should yield to medicine. But as this is not always the cause, even of convulsions which proceed immediately from the brain, some attempts should be made to remove them. The chief intention to be pursued for this purpose, is to make some derivation from the head, by blistering, purging, and the like. Should these fail, issues or setons may be put in the neck, or between the shoulders.

Of Water in the Head.

Though water in the head, or a dropsy of the brain, may affect adults as well as children, yet, as the latter are more peculiarly liable to it, we thought it would be most proper to place it among the diseases of infants.*

CAUSES.—A dropsy of the brain may proceed from injuries done to the brain itself by falls, blows, or the like; it may likewise proceed from an original laxity or weakness of the brain; from scirrhous 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 blistering-plasters applied to the neck or back part of the head. To which we would beg leave to add diuretics, or me-

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[* The discriminating characters of this disease demand assiduous attention from the medical practitioner, and parents. It cannot be doubted that a great number of children are constantly destroyed by water in the brain, when the nature of the malady has been entirely misunderstood, and the symptoms referred to other sources, most commonly worms: while, on the other hand, dropsy of the brain has been very frequently suspected, and the event has proved that the suspicion was destitute of any proper foundation.—ED.]

† I very 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.

dicines 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 instances of a cure being performed in a confirmed dropsy of the brain; but in so desperate a malady every thing deserves a trial.†

To look over the long catalogue of infantile diseases in some medical books, one would be inclined to think, that the real design of the authors, though concealed under the show of precision, was to spread alarm through every family. I have had a very different object in view, to quiet the fears of parents, to direct their attention to the proper treatment of their children, and thus to render the use of any medicines almost unnecessary. I have shewn the folly of having recourse to physic to bring away the black, viscid, syrup-like substance contained in the intestines of a new-born infant, when the purgative quality of his mother's milk is so admirably suited to that very purpose. The new milk is thin and waterish, but acquires every day greater consistence, and thus affords a more solid aliment to the child, as he becomes more capable of digesting it. If the mother does not vitiate by her own improper diet the pure fountains of nourishment and health which nature has kindly given her, the child will neither be troubled with costiveness nor gripes. He will escape those complaints of the stomach which are occasioned by swallowing crude, inflammatory trash, or still more pernicious drugs. The daily use of the cold bath, and frequent exercise in the open air, will not

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[* We cannot agree with the worthy author in the opinion that all means have been hitherto inadequate to the removal of this dreadful affliction: on the contrary, we are convinced by experience that timely remedies will be successful in many cases.—The stomach and bowels are first in fault in the majority of instances. Hence it is our duty to correct the first mischief there, by exhibiting a grain of calomel and three of antimonial powder at bed-time; by giving magnesia or senna tea in the morning; by warm bathing, and diligent friction on the stomach, &c.; by applying cold vinegar and water to the head, assisted by blisters made perpetual to the neck; and by keeping the patient as much as possible cool and in an erect posture.—Ed.]

† 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.

only preserve him from colds and defluxions, but from all the disorders which are the consequences of relaxation and of nervous irritability. A child brought up in the manner I have recommended, will have little to fear even from external contagion. The firm texture of his skin, like a shield, will almost resist its approach, and the purity of his habit will correct its malignity. The small-pox is the only infectious disease for which I would have him prepared by any particular process, because that process is so easy and certain, besides affording a perfect command both of time and circumstances.

CHAP. LV.

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 no adepts in anatomy. It is amazing with what facility peasants daily perform operations upon brute animals, which are not of a less difficult nature than many of 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 upon 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, apoplexy, epilepsy, &c. After falls, blows, bruises, or any violent hurt received either externally or internally, bleeding is necessary. It is likewise necessary for persons who have had the misfortune to be strangled, drowned, suffocated with foul air, the fumes of metal, or the like. In a word, whenever the vital motions have been suddenly stopped from any cause whatever, except in swoonings occasioned by mere weakness or hysteric affections, it is generally 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. bleedin 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 let, 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, not 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 upon the state of the mind than of the body: besides, it may often be occasioned or prevented by the manner in which the operation is performed.

Children are generally bled with leeches. This, though sometimes necessary, is a very troublesome and uncertain practice. It is impossible to know what quantity of blood is taken away by leeches; besides, the bleeding is often very difficult to stop, and the wounds are not easily healed. Would those who practise bleeding take a little more pains, and accustom themselves to bleed children, they would not find it such a difficult operation as they imagine.

Certain 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 from whence they are supposed to come, without considering that all the blood vessels arise from the heart, and return to it again: for which reason, unless in topical inflammations, it signifies very little from what part of the body blood is taken. But this, though a foolish prejudice, is not near so hurtful as the vulgar notion that the first bleeding will perform wonders. This belief makes them often postpone the operation when necessary, in order to reserve it for some more important occasion, and, when they think themselves in extreme danger, they fly to it for relief, whether it be proper or not. Bleeding at certain stated periods or seasons has likewise bad effects.

It is a common notion that bleeding in the feet draws the humours downwards, and consequently cures diseases of the head and other superior parts; but we have already observed that, in all topical affections, the blood ought to be drawn as near the part as possible. When it is necessary, however, to bleed in the foot or hand, as the veins are small, and the bleeding is apt to stop too soon, the part ought to be immersed in warm water, and kept there till a sufficient quantity of blood be let.

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 from 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 upon 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 Abscesses.

From whatever cause an inflammation proceeds, it must terminate either by dispersion, suppuration, or gangrene. Though it is impossible to foretel with certainty in which of these ways any particular inflammation will terminate, yet a probable conjecture may be formed with regard to the event, from a knowledge of the patient's age and constitution. Inflammations happening in a slight degree upon colds, and without any previous indisposition, will most probably be dispersed; those which follow close upon a fever, or happen to persons of a gross habit of body, will generally suppurate; and those which attack very old people, or persons of a dropsical habit, will have a strong tendency to gangrene.

If the inflammation be slight, and the constitution sound, the dispersion ought always to be attempted. This will be best promoted by a slender diluting diet, plentiful bleeding, and repeated purges. The part itself must be fomented, and, if the skin be very tense, it may be embrocated with a mixture of three-fourths of sweet oil, and one-fourth of vinegar, and afterwards covered with a piece of wax-plaster.

If, notwithstanding these applications, the symptomatic fever increases, and the 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 upon the poultice. When the abscess is ripe or fit for opening, which may easily be known from the thinness of the skin in the most prominent part of it, fluctuation of matter, which may be felt under the finger, and, generally speaking, an abatement of the pain, it may be opened either with a lancet, or by means of caustic.

The last way in which an inflammation terminates, is in a gangrene or mortification, the approach of which may be known by the following symptoms: the inflammation loses its redness, and becomes duskish or livid; the tension of the skin goes off, and it feels flabby; little bladders filled with ichor of different colours spread all over it; the 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 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 turpen-

[* A poultice made with barm and oatmeal, and repeated frequently, answers extremely well: so does carrots or turnips mashed very fine, especially in ulcers which are infectious and indolent.—Ed.]

tine All the dressings must be applied warm. With regard to internal medicines, the patient must be supported with generous cordials, and the Peruvian bark exhibited in as large doses as the stomach will bear it. If the mortified parts should separate, the wound will become a common ulcer, and must be treated accordingly.

This article includes the treatment of all those diseases, which, in different parts of the country, go by the names of *biles, imposthumes, whitloes,* &c. They are all abscesses in consequence of a previous inflammation, which, if possible, ought to be discussed; but when this cannot be done, the suppuration should be promoted, and the matter discharged by an incision, if necessary; afterwards the sore may be dressed with yellow 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 wound can be cured without the application of them. It is, however, a fact, that no external application whatever contributes towards the cure of a wound, any other way than by keeping the parts soft, clean, and defending them from the external air, which may be as effectually done by dry lint, as by the most pompous applications, while it is exempt from many of the bad consequences attending them.

The same observation holds with respect to internal applications. These only promote the cure of wounds as far as they tend to prevent a fever, or to remove any cause that might obstruct or impede the operations of nature. *It is nature alone that cures wounds.* All that art can do is to remove obstacles, and to put the parts in such a condition as is the most favourable to nature's efforts.

With this simple view we shall consider the treatment of wounds, and endeavour to point out such steps as ought to be taken to facilitate their cure.

The first thing to be done, when a person has received a wound, is to examine whether any foreign body be lodged in it, as wood, stone, iron, lead, glass, dirt, bits of cloth, or the like. These, if possible, ought to be extracted, and the wound cleaned before any dressings be applied. When that cannot be effected with safety, on account of the patient's weakness or loss of blood, they must be suffered to remain in the wound, and afterwards extracted when he is more able to bear it.

When a wound penetrates into any of the cavities of the body, as the breast, the bowels, &c. or where any considerable blood-vessel is cut, a skilful surgeon ought immediately to be called, otherwise the patient may lose his life. But sometimes

the discharge of blood is so great, that if it be not stopped, the patient may die, even before a surgeon, though at no great distance, can arrive. In this case, something must be done by those who are present. If the wound be in any of the limbs, the bleeding may generally be stopped by applying a tight ligature or bandage round the member a little above the wound. The best method of doing this is to put a strong broad garter round the part, but so slack as easily to admit a small piece of stick to be put under it, which must be twisted, in the same manner as a countryman does a cart-rope to secure is 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 upon the wound, and covered with a good deal of lint, above which a bandage may be applied so tight as to keep it firmly on.

Though spirits, tinctures, and hot balsams may be used, in order to stop the bleeding 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 bit of the common black sticking plaster. This keeps the sides of the wound together, and prevents the hair from hurting it, which is all that is necessary. 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.

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* See Appendix, *Wax Plaster*.

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 days; after which it may be removed, and fresh lint applied as before. If any part of the first dressing sticks so close as not to be removed with ease or safety to the patient, it may be allowed to continue, and fresh lint dipped in sweet oil laid over it. This will soften it, so as to make it come off easily at next dressing. Afterwards the wound may be dressed twice a day in the same manner till it 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 twice a day.

If the wound be large, and there is reason to fear an inflammation, the patient should be kept on a very low diet. He must abstain from flesh, strong liquors, and every thing that is of a heating nature. If he be of a full habit, and has lost but little blood from the wound, he must be bled; and if the symptoms be urgent, the operation may be repeated. But when the patient has been greatly weakened by loss of blood from the wound, it will be dangerous to bleed him, even though a fever should ensue. Nature should never be too far exhausted. It is always more safe to allow her to struggle with the disease in her own way, than to sink the patient's strength by excessive evacuations.

Wounded persons ought to be kept perfectly quiet and easy. Every thing that ruffles the mind, or moves the passions, as love, anger, fear, excessive joy, &c. are very hurtful. They ought, above all things, to abstain from venery. The body should be kept gently open, either by laxative clysters, or by a cool vegetable diet, as roasted apples, stewed prunes, boiled spinage, and such like.

Of Burns.

In slight burns, which do not break the skin, it is customary to hold the part near the fire for a competent time, to rub it with salt, or to lay a compress upon it, dipped in spirits of wine.

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* See Appendix, *Yellow Basilicon.*

or brandy. But when the burn has penetrated so deep as to blister or break the skin, it must be dressed with some of the liniments for burns mentioned in the Appendix, or with the emollient and gently-drying ointment, commonly called *Turner's cerate.** This may be mixed with an equal quantity of fresh olive oil, and spread upon a soft rag, and applied to the part affected. When this ointment cannot be had, an egg may be beat up with about an equal quantity of the sweetest salad oil. This will serve very well, till a proper ointment can be prepared. When the burning is very deep, after the first two or three days, it should be dressed with equal parts of yellow basilicon and *Turner's cerate*, mixed together.

When the burn is violent, or has occasioned a high degree of inflammation, and there is reason to fear a gangrene or mortification, the same means must be used to prevent, as are recommended in other violent inflammations. The patient, in this case, must live low, and drink freely of weak diluting liquors. He must likewise be bled, and have his body kept open. But if the burnt parts should become livid or black, with other symptoms of mortification, it will be necessary to bathe them frequently with warm camphorated spirits of wine, tincture of myrrh, or other antiseptics, mixed with a decoction of the bark. In this case the bark must likewise be taken internally, and the patient's diet must be more generous, with wine, &c.

As example teaches better than precept, I shall relate the treatment of the most dreadful case of this kind that has occurred in my practice. A middle-aged man, of a good constitution, fell into a large vessel full of boiling water, and miserably scalded about one half of his body. As his clothes were on, the burning in some parts was very deep before they could be got off. For the first two days the scalded parts had been frequently anointed with a mixture of lime-water and oil, which is a very proper application for recent burnings. On the third day, when I first saw him, his fever was high, and his body costive, for which he was bled, and had an emollient clyster administered. Poultices of bread and milk, softened with fresh butter, were likewise applied to the affected parts, to abate the heat and inflammation. His fever still continuing high, he was bled a second time, was kept strictly on the cooling regimen, took the saline mixture with small doses of nitre, and had an emollient clyster administered once a day. When the inflammation began to abate, the parts were dressed with a digestive composed of brown cerate and yellow basilicon. Where any black spots appeared, they were slightly scarified, and touched with the tincture of myrrh; and, to prevent their

* See Appendix, *Turner's cerate.*

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, spirits of wine, or other ardent spirits, which are commonly used in such cases.

In some parts of the country the peasants apply to a recent bruise a cataplasm of fresh cow-dung. I have often seen this cataplasm applied to violent contusions, occasioned by blows, falls, bruises, and such like, and never knew it fail to have a good effect.

When a bruise is very violent, the patient ought immediately to be bled, and put upon a proper regimen. His food should be light and cool, and his drink weak, and of an opening nature; as whey sweetened with honey, decoctions of tamarinds, barley, cream-tartar-whey, and such like. The bruised part must be bathed with vinegar aud water, as directed above; and a poultice made by boiling crumb of bread, elder-flowers, and camomile-flowers, in equal quantities of vinegar and water, applied to it. This poultice is peculiarly proper when a wound is joined to the bruise. It may be renewed two or three times a day.*

As the structure of the vessels is totally destroyed by a violent bruise, there often ensues a great loss of substance, which produces an ulcerous sore very difficult to cure. If the bone be affected, the sore will not heal before an exfoliation takes place; that is, before the diseased part of the bone separates, and comes out through the wound. This is often a very slow operation, and may even require several years to be completed. Hence it happens, that these sores are frequently mistaken for the king's evil, and treated as such, though in

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[* When a part is sprained or bruised, the treatment suggested above is very proper: but we add, that as soon as the first inflammation is subdued, let a bandage be worn; this affords mechanical support, and is of the last importance, when judiciously applied over the relaxed muscles of a limb.—Ed.]

fact they proceed solely from the injury which the solid parts received from the blow.

Patients in this situation are pestered with different advices. Every one who sees them proposes a new remedy, till the sore is so much irritated with various and opposite applications, that it is often at length rendered absolutely incurable. The best method of managing such sores is, to take care that the patient's constitution does not suffer by confinement, or improper medicine, and to apply nothing to them besides simple ointment spread upon soft lint, over which a poultice of bread and milk, with boiled camomile-flowers, or the like, may be put, to nourish the part, and keep it soft and warm. Nature, thus assisted, will generally in time operate a cure, by throwing off the diseased parts of the bone, after which the sore soon heals.

Of Ulcers.

Ulcers may be the consequence of wounds, bruises, or imposthumes improperly treated; they may likewise proceed from an ill state of the humours, or what may be called a bad habit of body.

In the latter case, they ought not to be hastily dried up, 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 humour, which is often so acrid as to inflame and corrode the skin; by the hardness and perpendicular situation of its sides or edges; by the time of its duration, &c.

It requires considerable skill to be able to judge whether or not an ulcer ought to be dried up. In general, all ulcers which proceed from a bad habit of body, should be suffered to continue open, at least till the constitution has been so far changed by proper regimen, or the use of medicine, that they seem disposed to heal of their own accord. Ulcers which are the effect of malignant fevers, or other acute diseases, may generally be healed with safety after the health has been restored for some time. The cure ought not, however, to be attempted too soon, nor at any time without the use of purging medicines and a proper regimen. When wounds or bruises have, by wrong treatment, degenerated into ulcers, if the constitution be good, they may generally be healed with safety. When ulcers either accompany chronical diseases, or come in their stead, they must be cautiously healed. If an ulcer conduces to the patient's health, from whatever cause it proceeds,

it ought not to be healed; but if, on the contrary, it wastes the strength, and consumes the patient by a slow fever, it should be healed as soon as possible.

We would earnestly recommend a strict attention to these particulars to all who have the misfortune to labour under this disorder, particularly persons in the decline of life; as we have frequently known people throw away their lives by the want of it, while they were extolling and generously rewarding those whom they ought to have looked upon as their executioners.

The most proper regimen for promoting the cure of ulcers, is to avoid all spices, salted and high-seasoned food, all strong liquors, and to lessen the usual quantity of flesh-meat. The body ought to be kept gently open by a diet consisting chiefly of cooling laxative vegetables, and by drinking 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 a 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 succcessful. The dose is a table-spoonful night and morning; at the same time washing the sore twice or thrice a day with it. In a letter which I had from the Doctor a little before his death, he informed me, "That he observed washing the sore thrice a day with the solution of a triple strength was very beneficial."*

A fistulous ulcer can seldom be cured without an operation. It must either be laid open so as to have its callous parts destroyed by some corrosive application, or they must be entirely cut away by the knife; but as this operation requires the hand of an expert surgeon, there is no occasion to describe it. Ulcers about the *anus* are most apt to become fistulous,

* 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 humours to the sores, and disposes them to heal.—[But the very best dressing is adhesive straps applied carefully so as to overlap on the whole extent of the ulcer, and keeping the bandage wet with vinegar and water to allay inflammation.—Ed.]

and are very difficult to cure.* Some indeed pretend to have found Ward's fistula paste very successful in this complaint. It is not a dangerous medicine, and being easily procured, it may deserve a trial; but as these ulcers generally proceed from an ill habit of body, they will seldom yield to any thing except a long course of regimen, assisted by medicines which are calculated to correct that particular habit, and to induce an almost total change in the constitution.

CHAP. LVI.

OF DISLOCATIONS.

When a bone is moved out of its place or articulation so as to impede its proper functions, it is said to be luxated or dislocated. As this often happens to persons in situations where no medical assistance can be obtained, by which means limbs, and even lives, are frequently lost, we shall endeavour to point out the method of reducing the most common luxations, and those which require immediate assistance. Any person of common sense and resolution, who is present when a dislocation happens, may often be of more service to the patient, than the most expert surgeon can, after the swelling and inflammation have come on. When these are present, it is difficult to know the state of the joint, and dangerous to attempt a reduction; and by waiting till they are gone off, the muscles become so relaxed, and the cavity filled up, that the bone can never afterwards be retained in its place.

A recent dislocation may generally be reduced by extension alone, which must always be greater or less according to the strength of the muscles which move the joint, the age, robustness, and other circumstances of the patient. When the bone has been out of its place for any considerable time, and a swelling or inflammation has come on, it will be necessary to bleed the patient, and, after fomenting the part, to apply soft poultices with vinegar to it for some time before the reduction is attempted.

All that is necessary after the reduction, is to apply cloths dipt in vinegar or camphorated spirits of wine to the part, and to keep it perfectly easy. Many bad consequences proceed from the neglect of this rule. A dislocation seldom happens without the tendons and ligaments of the joint being stretched

[*We have already remarked, when treating of piles, that pressure and cold application will generally afford instant relief. When an ulcer is established in this part, cleanliness will mitigate the patient's sufferings: but if the case is a confirmed fistula, an operation ought to be submitted to.—Ed.]

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 weak and diseased ever after.

Dislocation of the Jaw.

The lower jaw may be luxated by yawning, blows, falls, chewing hard substances, or the like. It is easily known from the patient's being unable to shut his mouth, or to eat any thing, as the teeth of the under jaw do not correspond with those of the upper; besides, the chin either hangs down or is thrown toward one side, and the patient is neither able to speak distinctly, nor to swallow without considerable difficulty.

The usual method of reducing a dislocated jaw, is to set the patient upon a low stool, so as an assistant may hold the head firm by pressing it against his breast. The operator is then to thrust his two thumbs, being first wrapt up with linen cloths that they may not slip, as far back into the patient's mouth as he can, while his fingers are applied to the jaw externally. After he has got firm hold of the jaw, he is to press it strongly downwards and backwards, by which means the elapsed heads of the jaw may be easily pushed into their former cavities.

The peasants in some parts of the country have a peculiar way of performing this operation. One of them puts a handkerchief under the patient's chin, then turning his back to that of the patient, pulls him up by the chin so as to suspend him from the ground. This method often succeeds, but we think it a dangerous one, and therefore recommend the former.

Dislocation of the Neck.

The neck may be dislocated by falls, violent blows, or the like. In this case, if the patient receives no assistance, he soon dies, which makes people imagine the neck was broken; it is, however, for the most part, only partially dislocated, and may be reduced by almost any person who has resolution enough to attempt it. A complete dislocation of the neck is instantaneous death.

When the neck is dislocated, the patient is immediately deprived of all sense and motion; his neck swells, his countenance appears bloated; his chin lies upon his breast, and his face is generally turned towards one side.

To reduce this dislocation, the unhappy person should immediately be laid upon his back on the ground, and the operator must place himself behind him so as to be able to lay hold of his head with both hands, while he makes a resistance by placing his knees against the patient's 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 upon his belly on a table, and the operator must endeavour to push the head of the bone into its proper place. Should this method not succeed, the arm of the disordered side may be suspended over a gate or ladder, and while the ribs are thus stretched asunder, the heads of such as are out of place may be thrust into their former situation.

Those dislocations wherein the heads of the ribs are forced inwards, are both more dangerous and the most difficult to reduce, as neither the hand nor any instrument can be applied internally to direct the luxated heads of the ribs. Almost the only thing that can be done is, to lay the patient upon his belly over a cask, or some gibbous body, and to move the fore-part of the rib inward towards the back, sometimes shaking it; by this means the heads of the luxated ribs may slip into their former place.

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 arm-pit; but when it is backward, there appears a protuberance behind the shoulder, and the arm is thrown forwards towards the breast.

The usual method of reducing dislocations of the shoulder is to seat the patient upon a low stool, and to cause an assistant to hold his body so that it may not give way to the extension, while another lays hold of the arm a little above the elbow, and gradually extends it. The operator then puts a napkin under the patient's arm, and causes it to be tied behind his own neck: by this, while a sufficient extension is made, he lifts up the head of the bone, and with his hands directs it into its proper place. There are various machines invented for facilitating this operation, but the hand of an expert surgeon is always more safe. In young and delicate patients, I have generally found it a very easy matter to reduce the shoulder, by extending the arm with one hand, and thrusting in the head of the bone with the other. In making the extension, the arm ought always to be a little bent.

Dislocation of the Elbow.

The bones of the fore-arm may be dislocated in any direction. When this is the case, a protuberance may be observed on that side of the arm towards which the bone is pushed, from which, and the patient's inability to bend his arm, a dislocation of this joint may easily be known.

Two assistants are generally necessary for reducing a dislocation of the elbow; one of them must lay hold of the arm above, and the other below the joint, and make a pretty strong extension, while the operator returns the bones into their proper place. Afterwards the arm must be bent, and suspended for some time with a sling about the neck.

Luxations of the wrist and fingers are to be reduced in the same manner as those of the elbow, viz. by making an extension in different directions, and thrusting the head of the bone into its place.

Dislocation of the 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 upward 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 upon 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 upon 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, viz. by making an extension in opposite directions, while the operator replaces the bones. In many cases, however, the extension alone is sufficient, and the bone will slip into its place merely by pulling the limb with sufficient force. It is not hereby meant, that force alone is sufficient for the reduction of 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.

CHAP. LVII.

OF BROKEN BONES, &c.

THERE is, in most country villages, some person who pretends to the art of reducing fractures. Though in general such persons are very ignorant, yet some of them are very successful; which evidently proves, that a small degree of learning, with a sufficient share of common sense and a mechanical head, will enable a man to be useful in this way. We would, however, advise people never to employ such operators, when an expert and skilful surgeon can be had: but when that is impracticable, they must be employed: we shall therefore recommend the following hints to their consideration:

When a large bone is broken, the patient's diet ought in all respects to be the same as in an inflammatory fever. He should likewise be kept quiet and cool, and his body open by emollient clysters; or, if these cannot be conveniently administered, by food that is of an opening quality; as stewed prunes, apples boiled in milk, boiled spinage, and the like. It ought, however, to be here remarked, that persons who have been accustomed to live high, are not all of a sudden to be reduced to a very low diet. This might have fatal effects. There is often a necessity for indulging even bad habits, in some measure, where the nature of the disease might require a different treatment.

It will generally be necessary to bleed the patient immediately after a fracture, especially if he be young, of a full habit, or has at the same time received any bruise or contusion. This operation should not only be performed soon after the accident happens, but if the patient be very feverish, it may be repeated next day. When several of the ribs are broken, bleeding is peculiarly necessary.

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, upon 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 thighbone, 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 upon the stretch. But this is a bad posture. It is both uneasy to the patient, and unfavourable 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 upon the stretch. It is easily effected, by either laying the patient upon his side, or making the bed so as to favour this position of the limb.

Surgeons 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 common 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 wanting altogether. A great many of the bad consequences which succeed to fractured bones, are owing to tight bandages. This is one of the ways in which the excess of art, or rather the abuse of it, does more mischief than would be occasioned by the want of it. Some of the most sudden cures of broken bones which were ever known, happened where no bandages were applied at all. Some method, however, must be taken to keep the

member steady; but this may be done many ways, without bracing it with a tight bandage.

The best method of retention is by two or more splints made of leather or pasteboard. These, if moistened before they are applied, soon assume the shape of the included member, and are sufficient, by the assistance of a very slight bandage, for all the purposes of retention. The bandage which we would recommend is that made with twelve or eighteen tails. It is much easier applied and taken off than rollers, and answers all the purposes of retention equally well. The splints should always be as long as the limb, with holes cut for the ancles when the fracture is in the leg.

In fractures of the ribs, where a bandage cannot be properly used, an adhesive plaster may be applied over the part. The patient in this case ought to keep himself quite easy, avoiding every thing that may occasion sneezing, laughing, coughing, or the like. He ought to keep his body in a straight posture, and should take care that his stomach be constantly distended, by taking frequently some light food, and drinking freely of weak watery liquors.

The most proper external application for a fracture is a mixture of vinegar and water. The bandages should be wet with this at every dressing, at least, and much oftener if the part is inflamed.

Of Strains.

Strains are often attended with worse consequences than broken bones. The reason is obvious; they are generally neglected. When a bone is broken, the patient is obliged to keep the member easy, because he cannot make use of it; but when a joint is only strained, the person, finding he can still make a shift to move it, is sorry to lose his time for so trifling an ailment. In this way he deceives himself, and converts into an incurable malady what might have been removed by only keeping the part easy for a few days.

Country people generally immerse a strained limb in cold water. This is very proper, provided it be done immediately, and not kept in too long. But the custom of keeping the part immersed in cold water for a long time is certainly dangerous. It relaxes instead of bracing the part, and is more likely to produce a disease than remove one.

Wrapping a garter, or some other bandage, pretty tight about the strained part, is likewise of use. It helps to restore the proper tone of the vessels, and prevents the action of the parts from increasing the disease. It should not, however, be applied too tight. I have frequently known bleeding near the affected part have a very good effect: but what we would recommend above all, is ease. It is more to be depended

on than any medicine, and seldom fails to remove the complaint.*

Of Ruptures.

Children and old people are most liable to this disease. In the former it is generally occasioned by excessive crying, coughing, vomiting, or the like. In the latter, it is commonly the effect of blows, or violent exertions of the strength, as leaping, carrying great weights, &c. In both, a relaxed habit, indolence, and an oily or very moist diet, dispose the body to this disease.

A rupture sometimes proves fatal before it is discovered. Whenever sickness, vomiting, and obstinate costiveness give reason to suspect an obstruction of the bowels, all those places where ruptures usually happen ought carefully to be examined. The protrusion of a very small part of the gut will occasion all these symptoms; and, if not returned in due time, will prove fatal. On the first appearance of a rupture in an infant, it ought to be laid upon its back, with its head very low. While in this posture, if the gut does not return of itself, it may easily be put up by gentle pressure. After it is returned, a piece of sticking-plaster may be applied over the part, and a proper truss or bandage must be constantly worn for a considerable time. The method of making and applying these 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 healed.

In adults, when the gut has been forced down with great violence, or happens from any cause to be inflamed, there is often great difficulty in returning it, and sometimes the thing is quite impracticable without an operation; a description of which is foreign to our purpose. As I have been fortunate enough, however, always to succeed in my attempts to return the gut, without having recourse to any other means than what are in the power of every man, I shall briefly mention the method which I generally pursue.

After the patient has been bled, he must be laid upon his back, with his head very low, and his breech raised high with pillows. In this situation, flannel cloths wrung out of a decoction of mallows and camomile-flowers, or, if these are not at hand, of warm water, must be applied for a considerable

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* A great many external applications are recommended for strains, some of which do good, and others hurt. The following are such as may be used with the greatest safety, viz. poultices made of stale beer or vinegar and oatmeal, camphorated spirits of wine, Mindererus's spirit, volatile liniment, volatile aromatic spirit diluted with a double quantity of water, and the common fomentation, with the addition of brandy or spirit of wine.

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 gut in by the same aperture through which it came out. The manner of doing this can be much easier conceived than described. Should these endeavours prove ineffectual, clysters of the smoke of tobacco may be tried. These have been often known to succeed where every other method failed.

There is reason to believe that, by persisting in the use of these, and such other means as the circumstances of the case may suggest, most hernias might be reduced without an operation. Cutting for the hernia is a nice and difficult matter. I would therefore advise surgeons to try every method of returning the gut before they have recourse to the knife. I have once and again succeeded by persevering in my endeavours, after eminent surgeons had declared the reduction of the gut impracticable without an operation.*

An adult, after the gut has been returned, must wear a steel bandage. It is needless to describe this, as it may always be had ready-made from the artists. Such bandages are generally uneasy to the wearer for some time, but by custom they become quite easy. No person who has had a rupture after he arrived at man's estate, should ever be without one of these bandages.†

Persons who have a rupture ought carefully to avoid all violent exercise, carrying great weights, leaping, running, and the like. They should likewise avoid windy aliment and strong liquors; and should carefully guard against catching cold.

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* I would beg leave to recommend it to every practitioner, when his patient complains of pain in the belly with obstinate costiveness, to examine the groins and every place where a rupture may happen, in order that it may be immediately reduced. By neglecting this, many perish who were not suspected to have ruptures till after they were dead. I have known this happen where half a dozen of the faculty were in attendance.

[† In addition to the use of trusses, it has been proposed lately to cure ruptures by applying the following wash to the part, in a cold state, several times a day.—Take of oak bark three ounces, boil it in three pints of water for an hour, strain it for use. To this, some add half an ounce of alum. It is hardly necessary to observe, that this remedy must be employed for several weeks before any benefit can be reasonably expected. In the disease termed *falling down* of the *fundament*, to which children are more especially subject, the above wash, with judicious application of bandages, assisted by tonic medicines internally, will commonly answer our intention.—Ed.]

CHAP. LVIII.

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 upon 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 vapour, the action of the heart by a stroke on the breast, or the functions of the brain by a blow on the head, if the person be suffered to grow cold, he will in all probability continue so; but, if the body be kept warm, as soon as the injured part has recovered its power of acting, the fluids will again begin to move, and all the vital functions will be restored.

It is a horrid custom, immediately to consign over to death every person who has the misfortune, by a fall, a blow, or the like, to be deprived of the appearance of life. The unhappy person, instead of being carried into a warm house, and laid by the fire, or put to a warm bed, is generally hurried away to a church, or a barn, or some other cold damp house, where, after a fruitless attempt has been made to bleed him, perhaps by one who knew nothing of the matter, he is given over for dead, and no farther notice taken of him. This conduct seems to be the result of ignorance, supported by an ancient superstitious notion, which forbids the body of any person killed by accident to be laid in an house that is inhabited. What the ground of this superstition may be, we shall not pretend to inquire; but surely the conduct founded upon it is contrary to all the principles of reason, humanity, and common sense.

When a person seems to be suddenly deprived of life, our first business is, to inquire into the cause. We ought carefully to observe whether any substance be lodged in the windpipe or gullet; and, if that is the case, attempts must be made to remove it. When unwholesome air is the cause, the patient ought immediately to be removed out of it. If the circulation be suddenly stopped, from any cause whatever, except mere weakness, the patient should be bled. If the blood does not flow, he may be immersed in warm water, or rubbed with warm cloths, &c. to promote the circulation. When the cause

cannot be suddenly removed, our great aim must be to keep up the vital warmth, by rubbing the patient with hot cloths, or salt, and covering his body with warm sand, ashes, or the like.

I should now proceed to treat more fully of those accidents, which, without immediate assistance, would often prove fatal, and to point out the most likely means for relieving the unhappy sufferers; but as I have been happily anticipated in this part of my subject by the learned and humane Dr. Tissot, I shall content myself with collecting such of his observations as seem to be the most important, and adding such of my own as have occurred in the course of practice.

Of Substances stopt between the Mouth and Stomach.

Though accidents of this kind are very common, and extremely dangerous, yet they are generally the effect of carelessness. Children should be taught to chew their food well, and to put nothing into their mouths which it would be dangerous for them to swallow. But children are not the only persons guilty of this piece of imprudence. I know many adults who put pins, nails, and other sharp-pointed substances in their mouths upon every occasion, and some who even sleep with the former there all night. This conduct is exceedingly injudicious, as a fit of coughing, or twenty other accidents, may force over the substance before the person is aware.*

When any substance is detained in the gullet, there are two ways of removing it, viz. either by extracting it, or pushing it down. The safest and most certain way is to extract it; but this is not always the easiest: it may therefore be more eligible sometimes to thrust it down, especially when the obstructing body is of such a nature, that there is no danger from its reception into the stomach. The substances which may be pushed down without danger are, all common nourishing ones, as bread, flesh, fruits, and the like. All indigestible bodies, as cork, wood, bones, pieces of metal, and such like, ought, if possible, to be extracted, especially if these bodies be sharp-pointed, as pins, needles, fish-bones, bits of glass, &c.

When such substances have not passed in too deep, we should endeavour to extract them with our fingers; which method often succeeds. When they are lower, we must make use of nippers, or a small pair of forceps, such as surgeons use. But this attempt to extract rarely succeeds, if the substance be of a flexible nature, and has descended far into the gullet.

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* 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.

If the fingers and nippers fail, or cannot be duly applied, crotchets, a kind of hooks, must be employed. These may be made at once, by bending a piece of pretty strong iron wire at one end. It must be introduced in the flat way; and, for the better conducting it, there should likewise be a curve or bending at the end it is held by, to serve as a kind of handle to it; which has this farther use, that it may be secured by a string tied to it; a circumstance not to be omitted in any instrument employed on such occasions, to avoid such ill accidents as have sometimes ensued from these instruments slipping out of the operator's hand. After the crotchet has passed below the substance that obstructs the passage, it is drawn up again, and hooks up the body along with it. The crotchet is also very convenient, when a substance somewhat flexible, as a pin or fish-bone, sticks across the gullet, the hook, in such cases, seizing them about their middle part, crooks and thus disengages them; or, if they are very brittle substances, serves to break them.

When the obstructing bodies are small, and only stop up a part of the passage, and which may either easily elude the hook, or straighten it by their resistance, a kind of rings, made either of wire, wool, or silk, may be used. A piece of fine wire of a proper length may be bent into a circle, about the middle, of about an inch diameter, and the long unbent sides brought parallel, and near each other: these are to be held in the hand, and the circular part or ring introduced into the gullet, in order to be conducted about the obstructing body, and so to extract it. More flexible rings may be made of wool, thread, silk, or small 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 bit of sponge may be introduced into that part which is unstopped, and beyond the substance. The sponge soon dilates, and grows larger in this moist

situation; and indeed the enlargement of it may be fowarded by making the patient swallow a few drops of water. Afterwards it is to be drawn back by the handle to which it is fastened; and as it is now too large to return through the small cavity by which it was conveyed in, it draws out the obstructing body along with it.

The compressibility of sponge is another foundation of its usefulness in such cases. A pretty large piece of sponge may be compressed or squeezed into a small size, by winding a string of tape closely about it, which may be easily unwound and withdrawn, after the sponge has been introduced. A bit of sponge may likewise be compressed by a piece of whalebone split at one end; but this can hardly be introduced in such a manner as not to hurt the patient.

I have often known pins and other sharp bodies, which had stuck in the throat, brought up by causing the person to swallow a bit of tough meat tied to a thread, and drawing it quickly up again. This is safer than swallowing sponge, and will often answer the purpose equally well.

When all these methods prove unsuccessful, there remains one more, which is, to make the patient vomit: but this can scarcely be of any service, unless when such obstructing bodies are simply engaged in, and not hooked or stuck into the sides of the gullet, as in this case vomiting might sometimes occasion farther mischief. If the patient can swallow, vomiting may be excited by taking half a drachm or two scruples of ipecacuanha in powder made into a draught. If he is not able to swallow, an attempt may be made to excite vomiting, by tickling his throat with a feather; and, if that should not succeed, a clyster of tobacco may be administered. It is made by boiling half an ounce of tobacco in a sufficient quantity 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 have been followed by no disorder.

Whenever it is manifest that all endeavours either to extract or push down the substance must prove ineffectual, they

should be discontinued; because the inflammation occasioned by persisting in them, might be as dangerous as the obstruction itself. Some have died in consequence of the inflammation, even after the body which caused the obstruction had been entirely removed.

While the means recommended above are making use of, the patient should often swallow, or, if he cannot, he should frequently receive by injection, through a crooked tube or pipe that may reach down to the gullet, some emollient liquor, as warm milk and water, barley-water, or a decoction of mallows. Injections of this kind not only soften and soothe the irritated parts, but, when thrown in with force, are often more successful in loosening the obstruction, than all attempts with instruments.

When, after all our endeavours, we are obliged to leave the obstructing body in the part, the patient must be treated as if he had an inflammatory disease. He should be bled, kept upon a low diet, and have his whole neck surrounded with emollient poultices. The like treatment must also be used, if there be any reason to suspect an inflammation of the passages, though the obstructing body be removed.

A proper degree of agitation has sometimes loosened the inhering body more effectually than instruments. Thus a blow on the back has often forced up a substance which stuck in the gullet; but this is still more proper and efficacious when the substance gets into the windpipe. In this case, vomiting and sneezing are likewise to be excited. Pins, which stuck in the gullet, have been frequently discharged by riding on horseback, or in a carriage.

When any indigestible substance has been forced down into the stomach, the patient should use a very mild and smooth diet, consisting chiefly of fruits and farinaceous substances, as puddings, pottage, and soups. He should avoid all heating and irritating things, as wine, punch, pepper, and such like; and his drink should be milk and water, barley-water, or whey.

When the gullet is so strongly and fully closed, that the patient can receive no food by the mouth, he must be nourished by clysters of soup, jelly, and the like.

When the patient is in danger of being immediately suffocated, and all hope of freeing the passage is vanished, so that death seems at hand, if respiration be not restored; the operation of bronchotomy, or opening of the windpipe, must be directly performed. As this operation is neither difficult to an expert surgeon, nor very painful to the patient, and is often the only method which can be taken to preserve life in these emergencies, we thought proper to mention it, though it should only be attempted by persons 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 recovery. But as several circumstances may happen to have continued life, in such an unfortunate situation, beyond the ordinary term, we should never too soon resign the unhappy object to his fate, but try every method for his relief, as there are many well-attested proofs of the recovery of persons to life and health who had been taken out of the water apparently dead, and who remained a considerable time without exhibiting any signs of life.

The first thing to be done, after the body is taken out of the water, is to convey it as soon as possible to some convenient place where the necessary operations for its recovery may be performed. In doing this, care must be taken not to bruise or injure the body by carrying it in any unnatural posture with the head downwards, or the like. If an adult body, it ought to be laid on a bed, or on straw, with the head a little raised, and carried on a cart or on men's shoulders, and kept in as natural and easy a position as possible. A small body may be carried in the arms.

In attempting to recover persons apparently drowned, the principal intention to be pursued is, to restore the natural warmth, upon which all the vital functions depend; and to excite these functions by the application of stimulants, not only to the skin, but likewise to the lungs, intestines, &c.

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 spirits should be frequently applied to the nose; and the spine of the back and pit of the stomach may be rubbed with warm brandy or spirit of wine. The temples ought also to be chafed with volatile spirits; and stimulating powders, as that of tobacco or marjoram, may be blown up the nostrils.

To renew the breathing, 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.

Clysters of warm water, with the addition of a little salt, and some wine or spirits, may be frequently administered. This may be done by a common clyster-bag and pipe; but, as it ought to be thrown well up, a pretty large syringe will answer the purpose better.

While these things are doing, some of the attendants ought to be preparing a warm bath, into which the person should be put, if the above endeavours prove ineffectual. Where there are no conveniences for using the warm bath, the body may be covered with warm 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 upon hot ashes, covering her with others equally hot, putting a bonnet round her head, and a stocking round her neck stuffed with the same, and heaping coverings over all. After she had remained half an hour in this situation, her pulse returned, she recovered speech, and cried out, I freeze, I freeze; a little cherry brandy was given her, and she remained buried, as it were, under the ashes for eight hours: afterwards she was taken out, without any other complaint, except that of lassitude or weariness, which went off in a few days. The doctor mentions likewise an instance of a man who was restored to life, after he had remained six hours under water, by the heat of a dunghill.

Till the patient shews some signs of life, and is able to swallow, it would be useless and even dangerous to pour liquors into his mouth. His lips, however, and tongue, may be frequently wet with a feather, dipped in warm brandy or other strong spirits; and, as soon as he has recovered the power of swallowing, a little warm wine, or some other cordial, ought every now and then to be administered.

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 re-animated, 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 taken to keep up the vital warmth, recovered, and in a few days was perfectly well. Dr. Alexander gives an instance to the same purpose, in the Edinburgh Physical and Literary Essays, of a man who was to all appearance killed by a blow on the breast, but recovered upon being immersed for some time in warm water. These, and other instances of a similar nature, which might be adduced, amount to a full proof of this fact, that many of those unhappy persons who lose their lives by falls, blows, and other accidents, might be saved by the use of proper means duly persisted in.

Of Noxious Vapours.

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 foul air. Be this as it may, it is a situation carefully to be avoided. Indeed, it is dangerous to sleep in a small apartment with a fire of any kind. I lately saw four persons who had been suffocated by sleeping in an apartment where a small fire of coal had been left burning.

The vapour which exhales from wine, cider, beer, or other liquors, in a state of fermentation, contains something poisonous, which kills in the same manner as the vapour of

coal. Hence there is always danger in going into cellars where a large quantity of these liquors is in a state of fermentation, especially if they have been close shut up for some time. There have been many instances of persons struck dead on entering such places, and of others who have with difficulty escaped.

When subterraneous caves, that have been very long shut, are opened, or when deep wells are cleaned, which have not been emptied for several years, the vapours arising from them produce the same effects as those mentioned above. For this reason, no person ought to venture into a well, pit, cellar or any place that is damp, and has been long shut up, till the air has been sufficiently purified, by burning gunpowder in it. It is easy to know, as has been observed in a former part of this work, when the air of such places is unwholesome, by letting down a lighted candle, throwing in burning fuel, or the like. If these continue to burn, people may safely venture in; but where they are suddenly extinguished, no one ought to enter till the air has been first purified by fire.

The offensive smell of lamps and of candles, especially when their flames are extinguished, operate like other vapours, though with less violence, and less suddenly. There have, however, been instances of people killed by the fumes of lamps which had been extinguished in a close chamber; and persons of weak, delicate breasts generally find themselves quickly oppressed in apartments illuminated with many candles.

Such as are sensible of their danger in these situations, and retreat seasonably from it, are generally relieved as soon as they get into the open air, or if they have any remaining uneasiness, a little water and vinegar, or lemonade, drank hot, affords them relief. But when they are so far poisoned, as to have lost their feeling and understanding, the following means must be used for their recovery:

The patient should be exposed to a very pure, fresh, and open air; and volatile salts, or other stimulating substances, held to his nose. He should next be bled in the arm, or, if that does not succeed, in the neck. His legs ought to be put into warm water, and well rubbed. As soon as he can swallow, some lemonade, or water and vinegar, with the addition of a little nitre, may be given him.

Nor are sharp clysters by any means to be neglected; these may be made, by adding to the common clyster, syrup of buckthorn and tincture of senna, of each two ounces; or, in their stead, half an ounce of Venice turpentine dissolved in the yolk of an egg. Should these things not be at hand, two or three large spoonfuls of common salt may be put into the clyster. The same means, if necessary, which were recommended in the former part of this chapter, may be used, to restore the circulation, warmth, &c.

Mr. Tossach, surgeon at Alloa, relates the case of a man suffocated by the steam of burning coal, whom he recovered by blowing his breath into the patient's mouth, bleeding him in the arm, and causing him to be well rubbed and tossed about. And Dr. Frewen, of Sussex, mentions the case of a young man who was stupified by the smoke of sea-coal, but was recovered by being plunged into cold water, and afterwards laid in a warm bed.

The practice of plunging persons suffocated by noxious vapours in cold water, would seem to be supported by the common experiment of suffocating dogs in the Grotto del Cani, and afterwards recovering them by throwing them into the neighbouring lake.

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 shew that this is a most dangerous and imprudent practice.

Every peasant knows, if frozen meat, fruits, or roots of any kind, be brought near the fire, or put into warm water, they will be destroyed by rottenness, or a kind of mortification, and that the only way to recover them, is to immerse them for some time in very cold water. The same observation holds with regard to animals in this condition.

When the hands or feet are greatly benumbed with cold, they ought either to be immersed in cold water, or rubbed with snow, till they recover their natural warmth and sensibility: after which, the person may be removed into an apartment a little warmer, and may drink some cups of tea, or an infusion of elder-flowers sweetened with honey. Every person must have observed, when his hands were even but slightly affected with cold, that the best way to warm them was by

washing them in cold water, and continuing to rub them well for some time.

When 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 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 spirits, and other things of a stimulating nature, may be applied to the skin, which should be well rubbed with coarse cloths, whipped with nettles, or other stimulating things. Some of the ancient physicians are said to have restored to life persons apparently dead, by beating them with rods.

Head-aches are often occasioned by exposure to intense heat; and in warm climates, where people are very liable to what they call coups de soleil, or strokes of the sun, it is a common custom to lay linen cloths, several times doubled, on the head, and to keep 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. [The safest and best remedy is the application of linen cloths, dipped in cold vinegar, to the head.—Ed.]

CHAP. LIX.

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 spoonsful 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 dipt 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 panado 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 upon 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 spirits 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 medicines.

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 camomile-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 upon that 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 humours, 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 child-bed, who, after being happily delivered, sud-"denly fainted, and lay upwards of a quarter of an hour appa-"rently dead. A physician was sent for; her own maid, in "the mean while, being out of patience at his delay, attempted "to assist her herself, and extending herself upon her mistress, "applied her mouth to her's, blew in as much breath as she "possibly could, and in a very short time the exhausted wo-"man 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 Altenburg, by "midwives, upon children with the happiest effect."

We mention this case chiefly that other midwives may be induced to follow so laudable an example. Many children are born without any signs of life, and others expire soon after the birth, who might, 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 endeavouring to save them. Alarmed at the patient's situation, they call in a crowd of people to his assistance, or perhaps to witness his exit, whose breathing exhausts the air, and increases the danger. There is not the least doubt but this practice, which is very common among the lower sort of people, often proves fatal, especially to the delicate, and such persons as fall into fainting fits from mere exhaustion, or the violence of some disease. No more persons ought ever to be admitted into the room where a patient lies in a swoon, than are absolutely necessary for his assistance, and the windows of the apartment should always be opened, at least as far as to admit a stream of fresh air.

Persons subject to frequent swoonings or fainting fits, should neglect no means to remove the cause of them, as their consequences are always injurious to the constitution. Every fainting fit leaves the person in dejection and weakness; the secretions are thereby suspended, the humours disposed to stagnation, coagulations and obstructions are formed, and, if the motion of the blood be totally intercepted, or very con-

siderably 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.

Of Intoxication.

The effects of intoxication are often fatal. No kind of poison kills more certainly than an overdose of ardent spirits. Sometimes, by destroying the nervous energy, they put an end to life at once; but in general their effects are more slow, and in many respects similar to those of opium. Other kinds of intoxicating liquors may prove fatal when taken to excess, as well as ardent spirits; but they may generally be discharged by vomiting, which ought always to be excited when the stomach is overcharged with liquor.*

More of those unhappy persons, who die intoxicated, lose their lives from an inability to conduct themselves, than from the destructive quality of the liquor. Unable to walk, they tumble down, and lie in some awkward posture, which obstructs the circulation or breathing, and often continue in this situation till they die. No person, when drunk, should be left by himself, till his clothes have been loosened, and his body laid in such a posture as is most favourable for continuing the vital motions, discharging the contents of the stomach, &c. The best posture for discharging the contents of the stomach is to lay the person upon his belly; when asleep he may be laid on his side, with his head a little raised, and particular care must be taken that his neck be no way bent, twisted, or have any thing too tight about it.

The excessive degree of thirst occasioned by drinking strong liquors, often induces people to quench it by taking what is hurtful. I have known fatal consequences even from drinking freely of milk after a debauch of wine or sour punch; these acid liquors, together with the heat of the stomach, having coagulated the milk in such a manner that it could never be digested. The safest drink after a debauch is water with a toast, tea, infusions of balm, sage, barley-water, and such like. If the person wants to vomit, he may drink a weak infusion of camomile-flowers, or lukewarm water and oil; but in this con-

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[* We have already endeavoured to convince our readers of the truth contained in the above paragraph. But, as immediate death occurs but seldom, that destruction which is *gradually*, yet as *certainly* effected, is too generally overlooked, and perhaps attributed to some other cause. The author has written well on this subject at page 389. When, however, we are called to witness this poisonous process, and where vomiting cannot be excited, the best plan will be to pump the poison out by means of the Stomach Syringe. See page 405.—Ed.]

dition, vomiting may generally be excited by only tickling the throat with the finger or a feather.

Instead of giving a detail of all the different symptoms of intoxication which indicate danger, and proposing a general plan of treatment for persons in this situation, I shall briefly relate the history of a case which lately fell under my own observation, wherein most of those symptoms usually reckoned dangerous, concurred, and where the treatment was successful.

A young man, about fifteen years of age, had, for a hire, drank ten glasses of strong brandy. He soon after fell fast asleep, and continued in that situation for several hours, till at length his uneasy manner of breathing, the coldness of the extremities, and other threatening symptoms, alarmed his friends, and made them send for me. I found him still sleeping, his countenance ghastly, and his skin covered with a cold clammy sweat. Almost the only signs of life remaining were, a deep laborious breathing, and a convulsive motion or agitation of his bowels.

I tried to rouse him, but in vain, by pinching, shaking, applying volatile spirits, and other stimulating things, to his nose, &c. A few ounces of blood were likewise taken from his arm, and a mixture of vinegar and water was poured into his mouth; but as he could not swallow, very little of this got into the stomach. None of these things having the least effect, and the danger seeming to increase, I ordered his legs to be put into warm water, and a sharp clyster to be immediately administered. This gave him a stool, and was the first thing that relieved him. It was afterwards repeated with the same happy effect, and seemed to be the chief cause of his recovery. He then began to shew some signs of life, took drink when it was offered him, and came gradually to his senses. He continued, however, for several days weak and feverish, and complained much of a soreness in his bowels, which gradually went off, by means of a slender diet, and cool mucilaginous liquors.

This young man would probably have been suffered to die, without any assistance being called, had not a neighbour, a few days before, who had been advised to drink a bottle of spirits to cure him of an ague, expired under very similar circumstances.

Of Suffocation and Strangling.

These may sometimes proceed from an infarction of the lungs, produced by viscid clammy humours, or a spasmodic affection of the nerves of that organ. Persons who feed grossly, and abound in rich blood, are very liable to suffocating fits from the former of these causes. Such ought, as

soon as they are attacked, to be bled, to receive an emollient clyster, and to take frequently a cup of diluting liquor with a little nitre in it. They should likewise receive the steams of hot vinegar into their lungs by breathing.

Nervous and asthmatic persons are most subject to spasmodic 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 drank; to a cup of which a tea-spoonful of the paregoric elixir may occasionally be added. Burnt paper, feathers, or leather, may be held to the patient's nose, and fresh air should be freely admitted to him.

Infants are often suffocated by the carelessness or inattention of their nurses.* An infant when in bed should always be laid so, that it cannot tumble down with its head under the bed-clothes; and when in a cradle, its face ought never to be covered. A small degree of attention to these two simple rules would save the lives of many infants, and prevent others from being rendered weak and sickly all their days by the injuries done to their lungs.

Instead of laying down a plan for the recovery of infants who are suffocated, or overlaid, as it is termed by their nurses, I shall give the history of a case related by Monsieur Janin, of the Royal College of surgery at Paris, as it was attended with success, and contains almost every thing that can be done on such occasions.

A nurse having had the misfortune to overlay a child, he was called in, and found the infant without any signs of life; no pulsation in the arteries, no respiration, the face livid, the eyes open, dull, and tarnished, the nose full of snivel, the mouth gaping, in short it was almost cold. Whilst some linen-clothes and a parcel of ashes were warming, he had the boy unswathed, and laid him in a warm bed, and on the right side. He then was rubbed all over with fine linen, for fear of fretting his tender and delicate skin. As soon as the ashes had received their due degree of heat, M. Janin buried him in them, except the face, placed him on the side opposite to that on which he had been at first laid, and covered him with a blanket. He had a bottle of eau-de-luce in his pocket, which he presented to his nose from time to time; and between whiles some puffs of tobacco were blown up his nostrils: to these succeeded the blowing into his mouth, and squeezing tight his nose.

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* 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 hysteric fit. This ought to serve as a caution against employing hysteric women as nurses; and should likewise teach such women never to lay an infant in the same bed with themselves, but in a small adjacent one.

Animal heat began thus to be excited gradually; the pulsations of the temporal artery were soon felt, the breathing became more frequent and free, and the eyes closed and opened alternately. At length the child fetched some cries expressive of his want of the breast, which being applied to his mouth, he catched at 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 M. 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.

M. Janin mentions likewise an example of a young man who had hanged himself through despair, to whom he administered help as effectually as in the preceding case.

Mr. Glover, surgeon in Doctors' Commons, London, relates the case of a person who was restored to life after twenty-nine minutes' hanging, and continued in good health for many years after.

The principal means used to restore this man to life were, opening the temporal artery and the external jugular; rubbing the back, mouth, and neck with a quantity of volatile spirits and oil; administering the tobacco clyster by means of lighted pipes, and strong frictions of the legs and arms. This course had been continued for about four hours, when an incision was made into the windpipe, and air blown strongly through a canula into the lungs. About twenty minutes after this, the blood at the artery began to run down the face, and a slow pulse was just perceptible at the wrist. The frictions were continued for 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 shew what may be done for the recovery of those unhappy persons who strangle themselves in a fit of despair.

Of Persons who expire in Convulsion Fits.

Convulsion fits often constitute the last scene of acute or chronic disorders. When this is the case, there can remain but small hopes of the patient's recovery after expiring in a fit. But when a person who appears to be in perfect health, is suddenly seized with a convulsion fit, and seems to expire, some attempts ought always to be made to restore him to life. Infants are most liable to convulsions, and are often carried off very suddenly by one or more fits about the time of teething. There are many well-authenticated accounts of infants

having been restored to life, after they had to all appearance expired in convulsions; but we shall only relate the following instance mentioned by Dr. Johnson in his pamphlet on the practicability of recovering persons visibly dead.

In the parish of St. Clement's in Colchester, a child of six months old, lying upon its mother's lap, having had the breast, was seized with a strong convulsion fit, which lasted so long, and ended with so total a privation of motion in the body, lungs, and pulse, that it was deemed absolutely dead. It was accordingly stripped, laid out, the passing-bell ordered to be tolled, and a coffin to be made; but a neighbouring gentlewoman who used to admire the child, hearing of its sudden death, hastened to the house, and upon examining the child, found it not cold, its joints limber, and fancied that a glass she held to its mouth and nose was a little damped with the breath; upon which she took the child in her lap, sat down before the fire, rubbed it, and kept it in gentle agitation. In a quarter of an hour she felt the heart begin to beat faintly; she then put a little of the mother's milk into its mouth, continued to rub its palms and soles, found the child begin to move, and the milk was swallowed; and in another quarter of an hour she had the satisfaction of restoring to its disconsolate mother the babe quite recovered, eager to lay hold of the breast, and able to suck again. The child throve, had no more fits, is grown up, and at present alive.

These means, which are certainly in the power of every person, were sufficient to restore to life an infant to all appearance dead, and who, in all probability, but for the use of these simple endeavours, would have remained so. There are, however, many other things which might be done in case the above should not succeed; as rubbing the body with strong spirits, covering it with warm ashes or salt, blowing air into the lungs, throwing up warm stimulating clysters or the smoke of tobacco into the intestines, and such like.

When children are dead born, or expire soon after the birth, the same means ought to be used for their recovery, as if they had expired in circumstances similar to those mentioned above.

These directions may likewise be extended to adults, attention being always paid to the age and other circumstances of the patient.

The foregoing cases and observations afford sufficient proof of the success which may attend the endeavours of persons totally ignorant of medicine, in assisting those who are suddenly deprived of life by 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 endeavours for the preservation of their fellow-men.

The society for the recovery of drowned persons, instituted at Amsterdam in the year 1767, had the satisfaction to find that no fewer than 150 persons, in the space of four years, had been saved by the means pointed out by them, many of whom owed their preservation to peasants, and people of no medical knowledge. But the means used with so much efficacy in recovering drowned persons are, with equal success, applicable to a number of cases where the powers of life seem in reality to be only suspended, and to remain capable of renewing all their functions, on being put into motion again. It is shocking to reflect, that, for want of this consideration, many persons have been committed to the grave, in whom the principles of life might have been revived.

The cases wherein such endeavours are most likely to be attended with success, are all those called sudden deaths from an invisible cause, as apoplexies, hysterics, faintings, and many other disorders wherein persons in a moment sink down and expire. The various casualties in which they may be tried are, suffocations from the sulphureous damps of mines, coal-pits, &c. the unwholesome air of long unopened wells or caverns; the noxious vapours arising from fermenting liquors; the steams of burning charcoal; sulphureous mineral acids; arsenic effluvia, &c.

The various accidents of drowning, strangling, and apparent deaths by blows, falls, hunger, cold, &c. likewise furnish opportunities of trying such endeavours. Those, perhaps, who, to appearance, are killed by lightning, or by any violent agitation of the passions, as fear, joy, surprise, and such like, might also be frequently recovered by the use of proper means, as blowing strongly into their 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 motion. This may in general be attempted by means of heat, friction, bleeding, blowing air into the lungs, administering clysters and generous cordials. These must be varied according to circumstances. Common sense, and the situation of the patient, will suggest the proper manner of conducting them. Above all, we would recommend perseverance. People ought never to despair on account of discouraging circumstances, or to leave off their endeavours as long as there is the least hope of success. Where much good and no hurt can be done, no one ought to grudge his labour.

CHAP. LX.

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 mineral waters, I pledged myself to treat the subject at more length on a future occasion; and I now mean to fulfil that promise. The discussion will be naturally divided into two parts. In the first, I shall endeavour 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. Every body 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 advisable.

Immersion in cold water is a custom which lays claim to the most remote antiquity. Indeed, it must have been coeval with man himself. The necessity of water for the purpose of cleanliness, and the pleasure arising from its application to the body in hot countries, must very early have recommended it to the human species. Even the example of other animals was sufficient to give the hint to man. By instinct, many of them are led to apply cold water in this manner; and some, when deprived of its use, have been known to languish, and even to die. But whether the practice of cold bathing arose from necessity, reasoning, or imitation, is an 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 continual use, as to become absolutely incurable. Without 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 those elegant and fashionable pieces of luxury. But as no such laws exist in this country, every one does that which is right in his own eyes, and of course many must do wrong. I hope, however, that, when better informed, they will learn to correct errors of so fatal a tendency.

Absurd prejudices against cold-bathing are not less blameable on the other hand. Though it should never be prescribed for the cure of diseases, without well considering the nature of each case, it cannot be too earnestly or too generally recommended as a preservative of health. I am therefore sorry to see some modern writers attempting to revive the whimsical and long-exploded doctrine of Galen, who said, that immersion in cold water was fit only for the young of lions and bears; and that warm-bathing was conducive to the growth and strength of infants. How egregiously do the greatest men err, whenever they lose sight of facts, and substitute sallies of wit or specious arguments, in physic, for observation 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 shewed how the use of the cold bath might be gradually brought about with the utmost safety; and I am persuaded that those who give it a fair trial will readily comply with my farther advice to continue it ever after, except in such cases of indisposition or infirmity as I shall presently notice. Nothing contributes more to the growth, vigour, and firmness of youth, or to the activity and permanent health of manhood, than daily immersion in cold water. It steels the frame against changes of weather, against the impressions of cold or moisture, and many other external injuries. It is of course the best preventive of all those diseases which arise from a relaxed skin, obstructed or profuse perspiration, and nervous weakness.

When the cold bath is used merely as a means of preserving health, in which point of view I am now considering it, a single

plunge or dip of the whole body will be sufficient, though active swimmers may continue their favourite amusement for five or six minutes without injury. Any longer stay might prove dangerous, by not only occasioning an excessive flux of humours 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 over-heated.

The like caution should be given against plunging into cold water after dinner, or after much fatigue. For these and many other reasons, the morning is very properly recommended to persons in health, as the best time for bathing. It is the least likely to interfere with their other pursuits or concerns: i washes away any particles of the perspirable matter that may have remained on the surface of the skin, before they can be re-absorbed: it affords fresh supplies of vigour and alacrity, to enter upon the duties of the day; and, as I have already hinted, it fortifies the body against any changes of weather, to which it may be afterwards exposed in a far lighter element.

In a state of perfect health, it may be farther 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 that season, and the agreeable stimulus which many persons experience from the action of saline particles, not only in the water, but when they are floating in the atmosphere. It should also be considered, that the temperature of the sea is more uniform than that of rivers, never rising so high, or sinking so low, in any change of weather. But such points of difference are chiefly interesting to valetudinarians.

What I have said of the cold bath, when used as the means of preventing disease, will throw some light on the propriety of occasionally resorting to it as an important remedy. In cases of peculiar delicacy and danger, it is an instrument which can only be entrusted to the most skilful hands; but in many other less critical situations, a few plain rules may be of considerable service.

The first object to be attended to in the use of the cold bath, as a remedy, is, whether the patient is not too much enfeebled to bear the shock. This cannot always be determined by appearances; but a single experiment will remove all doubt. If the immersion be followed by a pleasant glow, and a sense of increasing alacrity, it is the best proof of its agreeing with the constitution, and of its being likely to have a happy influence on the whole frame. Hence the cold bath is found to be an excellent bracer and restorative in cases of languor, of habitual lassitude, and of muscular or nervous weakness, when arising from much confinement, a sedentary life, intense study, or any of the usual causes of relaxation. But it is always understood, that, in every instance of this sort, a sufficient strength of original stamina still remains to produce a proper re-action of the heart and arteries, upon which all the salutary effects of bathing depend.

The great efficacy of the cold bath, and particularly of sea-bathing, has often been experienced in scrofulous complaints, which are always attended with a relaxation of the fibres, and a strong disposition to languor and indolence. In such cases, sea-bathing is not only recommended as a tonic, or bracer, but as a powerful detergent and purifier also, especially if the sea-water be used internally at the same time. No difference of opinion prevails on this head, as far as 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 remove 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 dis-

covered 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 upon the lungs, or any other vital part, bathing in the sea, or drinking its waters, would be not only useless, but extremely injurious.

It would also imply too great a confidence in the salutary virtues of sea-bathing, to prescribe it as a remedy for cutaneous disorders in general. To many of them the warm bath is much better adapted; and the proper choice of the one or the other can only be determined by a skilful physician, after a due consideration of the patient's 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. I shall have occasion to repeat this caution, when I come to speak of some mineral waters, which are frequently resorted to for the cure of similar complaints.

Though, as I 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 per-

fect safety, and little inconvenience. It excites thirst, but seldom nausea, unless the stomach is very irritable, or the patient very squeamish.

In chronic diseases, where a cure cannot be expected but from the long-continued use of any remedy, it is a great recommendation of the sea-water, that it may be persevered in for a considerable time, without weakening the stomach, the intestines, or the constitution in general. Instances frequently occur of persons who keep the body moderately open by its daily use for months together, and yet enjoy during the whole time a good appetite, and excellent powers of digestion, with increased vigour both of body and mind. It is always most advisable to make use of the sea-water externally and internally, in the manner here directed, only twice or three times a week, till the patient is encouraged by degrees to employ the salutary process every day. It should also be gradually discontinued in the same manner, after the desired end is obtained.

There are several disorders, besides those already mentioned, particularly ardent fevers, and various cases of local inflammation and muscular rigidity, in which the external application of cold water may produce good effects. But many of them require great accuracy of distinction, as well as the utmost judgment and caution in the use of a remedy, which a small mistake, or a small change of circumstances, may render hazardous. In a work like this, designed for popular instruction, it would be improper to encourage rash experiments, by pointing out such niceties in medical practice as are safe only when under the guidance of medical skill. I do not know any thing in its own nature so salutary, and yet so liable to be abused, as the cold bath. I shall therefore proceed to touch upon the cases, where the inconsiderate or improper application of such a remedy may prove injurious, and sometimes fatal.

It is not merely in the critical cases just alluded to, but in many slighter indispositions, that injudicious immersion in cold water may be attended with very serious consequences. Fevers are much oftener produced than cured by cold-bathing, if rashly resorted to. Disorders of the intellectual functions, palsies, apoplexies, and death, may be, and are frequently, occasioned by a single dip, in cases either of extreme nervous debility, or of extreme fulness. When I reflect on the frantic precipitancy with which I have seen many persons of very weak, and others of very plethoric habits, after a rapid journey from London to some watering-place, plunge instantly into the sea, without the least preparation, so far from being surprised at the numbers who suffer, I am rather astonished that any should escape. In order to prevent the ignorant and the thoughtless from falling victims to their indiscretion, and to guard persons afflicted with particular complaints against the

use of an improper medicine, I shall point out the principal indispositions, in which the cold bath would be likely to aggravate the symptoms, and even to endanger the life of the patient.

When cold-bathing occasions chillness, loss of appetite, listlessness, pain of the breast or bowels, a prostration of strength, or violent headaches, it ought to be discontinued. These unpleasant sensations are the surest proofs that the actual state of the patient's habit is unfit to bear the shock; and that either the re-action of the heart and arteries is too weak to overcome the cold pressure on the surface, or that the determination to the head, or to some other vital part, is too rapidly increased. Every body's feelings, after immersion in cold water, are the best criterion by which we can decide on the probability of its good or its bad effects. We might otherwise be deceived by appearances, and be induced to recommend the cold-bath in all cases that might seem to require a tonic and stimulant plan of cure.

But it may sometimes be dangerous, or at least very detrimental, to make even a single experiment. In particular affections of the stomach and bowels, as well as in diseases of the lungs or of the brain, and all obstinate obstructions, the effect may be fatal. The late Dr. Smollet, indeed, said, that if he were persuaded he had an ulcer in the lungs, he would jump into the cold-bath. In doing so, however, the doctor would certainly shew 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 re-action. The cold-bath is often very necessary to complete a cure, though not always advisable to begin with. This requires particular illustration.

In hysteric and hypochondriac cases, cold-bathing at first has done the greatest mischief, though it may be finally resorted to with good effect, after a preparatory and long-continued use of the tepid or lukewarm bath. Its warmth must be diminished very slowly, and almost imperceptibly. Nature revolts against all great transitions; and those who do violence to her dictates, have often cause to repent of their temerity.

The like gradual diminution of the temperature of the water is no less proper in rheumatic complaints, and in those muscular contractions and convulsive motions which are called St. Vitus's Dance.

Indeed, it may be laid down as a pretty general rule in that branch of nervous disorders which includes spasms, convulsions, epilepsies, and similar consequences of the debility or irritability of the system, that we should always begin with the warm-bath, and proceed to the cold by the most pleasing and gentle 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 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 those which arise from intoxication, are, indeed, often relieved by what is called the shower-bath, or by the effusion 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 hæmorrhages, and other fluxes of blood, when so considerable as to endanger the patient's life or constitution, cold water may be applied with good effect. It also forms a part of the tonic plan to be pursued in an immoderate flow of the menses; nor is any thing more likely to prevent the return of this complaint than cold bathing 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 upon some vital part. What is called the retrocedent gout frequently arises from some mismanagement of this sort, as well as from some particular weakness or atony of the system. Cold-bathing is a very hazardous experiment to be made by persons subject to the gout, except in the absence of the symptoms, when no indisposition is felt in either the head or stomach, when the extremities are not threatened with pain; and then only in concurrence with the best medical advice.

Bathing the lower extremities in warm water is generally and very properly recommended both in the retention and suppression of the menses, to excite the action of the uterine vessels, and, in the latter case, to remove any stricture of those vessels

which may be induced by cold or fear. A skilful physician, however, will sometimes meet with cases of a retention of the menses after the usual age, in which the cold-bath, if seasonably used at the beginning of the disease, may contribute to restore the tone of the system.

The delicacy and general irritability of the habit in a state of pregnancy, as well as the danger of too great a determination of the blood to the womb, clearly forbid the use of the cold-bath, unless it should be rendered advisable by some circumstances of a peculiar nature, of which a medical man of skill and experience is the only proper judge.

It is a great and often a fatal mistake, to rely on the tonic powers of the cold-bath as the best means of repairing the injury done to the constitution by the relaxing influence of hot climates. People, on their return to England after having resided in the East or West Indies, would find the warm-bath not only safer, but far more conducive to the recovery of their former strength. I would not have them venture into a bath of a temperature under 90° for a considerable time, after which they may gradually diminish its warmth, as before recommended in cases of extreme debility.

I might here go into farther details, and shew 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.

Some years ago, a foreign quack made a great deal of noise in this country with his medicated baths; but, like other follies of the day, they are now almost sunk into oblivion. A few writers have also been very lavish of their panegyrics on the wonderful effects of vapour baths, as used in Russia: but I do not think that the inhabitants of these milder regions will ever have occasion to envy the rigid fibres of the north the enjoyment of such fanciful luxuries. The strength of steam is, perhaps, better known and more usefully employed in England than in any quarter of the globe; but we meet with very few cases, where its intense action on the surface of the human body can be deemed essentially necessary either for the prevention or the cure of diseases. Surely the skin of an Englishman may be rendered perspirable by a much gentler stimulus, and without the aid of so troublesome and suffocating a process.

Of Mineral Waters.

It is scarcely possible to read without a smile the numberless books, essays, and pamphlets, which have been written on

this subject. It seems to be the favourite region for the exercise of fiction and fancy. The traditionary tales of ancient miracles, said to be wrought by holy wells and consecrated springs, do not much surpass in extravagance the modern cures ascribed to those favourite haunts of valetudinarians by fraud, ignorance, and credulity. In printed Guides, as they are called, or Pocket Companions to any of those fountains of health, it may be excusable to amuse us with a little romance; but we are sorry to find the same spirit pervading many medical treatises, which should be distinguished by the most sacred regard for truth, and a just contempt of puerile embellishments.

Some allowance indeed should be made for the influence of local prejudices, and for the strong bias of interest and ambition on the mind of a professional man, who, residing near one of those springs, has, perhaps, no other means of acquiring popularity and reputation, but by an encomium on its virtues, and a description, quite in the poetical style, of the beauties of the surrounding scenery. The latter is, indeed, a harmless puff: it seldom deceives any body; but is viewed in the same light as an auctioneer's advertisement of an estate, where frightful chasms are often described as curious grottos, a few furze bushes as a shrubbery laid out by the finger of nature, and a gallows as an hanging wood. There is another particular, in which those highly coloured landscapes, that form the introductory part of almost every treatise on a medicinal spring, may defeat the proposed end, and that is, by exciting a reasonable suspicion that the waters are chiefly indebted for the high reputation of their efficacy to local circumstances, to the pleasant walks and rides, or the delightful prospects round them.

A display of all the attractions of the favourite spot is commonly followed by very minute details of chemical analysis, which are just of as little use to the generality of readers as the description of the scenery. A knowledge of the contents of any mineral water by no means implies a knowledge of its medical properties. These are to be learned by repeated experiments. Were it not for the evidence of facts, the late discoveries in chemistry, as far as they respect the analysis of mineral waters, would only tend to lessen their credit, by shewing the little difference between them and any common water of the same purity and temperature. For instance, if we confined ourselves to mere speculation on the subject, how could we suppose that a quarter of a grain of the oxide of iron suspended by a little fixed air in a whole quart of Tunbridge water, the largest quantity usually taken in the course of a day, could produce any remarkable or peculiar effects? The same thing might be said of the most celebrated springs in

the kingdom; and many physicians of great professional eminence, arguing from this principle, have not hesitated to assert, that the cures performed by those springs were not owing to the ingredients with which they were impregnated, but to the simple elementary part, or what may be called the pure water. It would not be easy therefore to determine, whether chemical analysis has furnished more arguments in favour of, or against, the boasted superiority of mineral waters.

Dr. Falconer, the author of one of the very few books, relative to this subject, that contain something more than the gratification of idle curiosity, candidly confesses, that "chymical analysis, as far as it has been hitherto prosecuted, seems to give us a very imperfect view of the methods by which these effects (*i. e.* the medicinal effects of the Bath waters) have been produced; and this circumstance has induced several persons to deny the truth of the facts altogether, or to represent them as highly exaggerated, and that such advantages (if any) as might be in truth received, were owing to collateral circumstances of uncertain and indeterminate efficacy, as change of air, diet, manner of life, and the like."

It is not therefore to the landscape painter, or to the chemist, that we must look for any useful information on those points, but to the modest and judicious practitioner, who, like the author now quoted, watches with care, and reports with fidelity, the bad as well as the good effects of the waters he describes, the instances of their failure, as well as of their success, in various disorders. I am sorry to add, that the fund of such truly valuable materials is as yet very scanty, and that I must confine myself to general remarks on the most frequented of our medical springs, so as to direct invalids to the fountain, from the use of which they may form some reasonable hopes of relief. As more particular instructions will often be necessary when they get to the spot, I feel it my duty to caution them against choosing for their medical guide any man, however high his reputation may be, who has distinguished himself as the loudest or most eloquent trumpeter in the indiscriminate praise of the waters near which he resides.

The like caution may prove still more serviceable to such of our countrymen as resort to foreign springs for medicinal purposes. A popular advocate for the use of any remedy is seldom to be relied on as a good physician; and we have always strong reason to suspect the skill or the integrity of a man, who speaks in a tone of confidence of the infallible efficacy of the waters which he prescribes. Some of those foreign waters being also frequently imported into this kingdom, and used here medicinally, I shall give a short account of a few of them, which are found to possess virtues superior to any of our own in the cure of certain disorders.

Mineral waters are usually classed according to their sensible qualities, as perceived by the touch, sight, taste, and smell, or according to some well-known ingredient, which may predominate in this or that particular spring. The most obvious division is into cold and hot fountains; but both these, being too comprehensive, are again subdivided into chalybeate, saline, sulphureous, and calcareous, from their being impregnated with iron, salts, sulphur, or lime. There are many still minuter distinctions, where two or more of those ingredients may be found united in the same spring, or combined with different sorts of air, which must have a very powerful effect in the internal use of the waters.

The first class of mineral waters which I shall notice, are those called chalybeates, from a Greek word that signifies iron, the taste of which is very perceptible in them when fresh from the spring, though they lose it on being exposed for some time to the atmosphere. The reason is, that the small quantity of iron which they contain, being kept in solution by fixed air, when this evaporates, the iron sinks to the bottom, forming the fine ochre that lines the channel or water-course. As iron abounds in almost every part of the earth, it is no wonder that so many springs should be impregnated with it, in a greater or less degree, according to the quantity of fixed air they contain, by which the iron is held in a state of solution. Some of those waters have, in conjunction with the iron and fixed air, a pretty strong mixture of purgative salt, and are very different from the others in their effects as well as their taste. In order to distinguish each by a specific name, the former may be called simple chalybeates, and the latter saline or purging chalybeates. Tunbridge Wells standing in point of reputation, or of fashionable resort, at the head of the one, and Cheltenham at the head of the other; they may be very properly chosen as examples or illustrations of the various medicinal effects of this numerous class of waters.

It has been already intimated, that the water of Tunbridge Wells is found, upon being analyzed, to differ from that of common springs only by containing in every gallon a grain of iron suspended by about three table-spoonsful in bulk of fixed air. Yet its medicinal effects are very considerable. It gives a gentle stimulus to the relaxed nerves, and contributes to restore their proper tone. It affords great relief in many complaints of the stomach, in flatulencies, bilious vomitings, irregular or imperfect digestion, and other consequences of either debility or intemperance. It promotes the circulation of the blood, and the various secretions; but more particularly that of urine: and this latter circumstance is one of the best proofs of its agreeing with the habit of the patient. In short, its natural tendency in the cases to which its stimulant and tonic

powers are adapted, is to raise the spirits, and increase the general vigour of all the functions.

The Tunbridge waters are serviceable in what may be called the sexual disorders of females, arising from a great weakness or derangement of the uterine system; such as an immoderate flow of the menses, green sickness, fluor albus, and other similar indispositions, which are not only relaxing and painful in themselves, but are often the causes of abortion, or of sterility. If the profuse flow of the menses should be accompanied, as it often is, by feverish symptoms, by pain in the back, and local irritation, the stimulus of the waters might then prove injurious. Indeed, they are improper in all inflammatory cases, except the feverish irritation which attends the green sickness, and which is more frequently abated than increased by the use of chalybeates.

We may proceed still farther in our recommendation of the Tunbridge waters, and prescribe them with great probability of success in such chronic disorders as arise from slow beginnings, and are attended with great laxity and weakness of the solids, but without much organic disease. It is necessary to attend to this material exception; because a general weakness may be often brought on by morbid affections of the mesentery, of the lungs, or of some other other important organ, to the cure or relief of which they would be very inadequate. Even in complaints where they have commonly proved efficacious, cases must often occur that require the exercise of the nicest judgment and discrimination.

But it is not enough to consider well the propriety of having recourse to those waters in any particular instance: some caution is also necessary in using them. When the stomach is foul, a purgative is commonly preferable to emetics. What the immediate effect of the waters may be, can only be known by trial. They often purge very briskly at first, but this effect soon ceases; and as their continued use has some tendency to occasion costiveness, gentle opening medicines from time to time are necessary. The water itself may be easily converted into a purging chalybeate, by the addition of a little magnesia or Epsom salts, when necessary. In the removal of other obstructions, those more especially to which females are subject, the occasional use of the warm-bath will be found an excellent auxiliary.

In entering upon a course of the Tunbridge waters, it is always best to begin with a small dose, not exceeding a quarter of a pint, about half an hour before breakfast, to be repeated, at regular intervals, once or twice in the forenoon, according to the pleasantness of the sensations it excites. The quantity may be soon augmented to half a pint or even more at each dose, if agreeable, or necessary, as the waters

lose much of their medicinal effect by continued use, the stimulus wearing off in about six or eight weeks, and making no peculiar impression on the stomach or habit. The usual hours for the three doses are eight o'clock, ten o'clock, and twelve. A light breakfast at nine will not impede the proper action of the waters; and as one of their effects is to improve the appetite, its indulgence should be under the control of moderation. But I have elsewhere enlarged so fully on the advantages of temperance, as well as of early hours and exercise, that I need not stop here to point out their importance in promoting the salutary operation of any course of medicines either natural or artificial.

As some persons may be too soon prejudiced against the use of chalybeates by any unpleasant or unexpected sensations at first, it is proper to inform them, that giddiness, and sometimes a heaviness of the head, nausea, vomiting, a slight pain about the heart, and a sense of fulness over the whole body, though by no means uncommon symptoms on beginning a course of these waters, will disappear after a little use. It is only when they stubbornly continue, that they should be regarded as a proof that the waters are not suited to the nature of the complaint, or to the patient's constitution. The nausea or sickness being often occasioned by the coldness of the fresh-drawn water acting on an empty or a very weak and irritable stomach, it is advisable in the first instance not to drink the waters fasting, till the stomach becomes gradually reconciled to them; and, in case of extreme irritability, it is a common and judicious practice at Tunbridge to immerse in hot water a bottle filled with the chalybeate, and well corked, that the chillness may be diminished, with as little evaporation of the fixed air as possible. Where this abounds, as in the waters of the German Spa, or still more in those of Pyrmont, it need not be preserved with so much caution; but a sufficient quantity of boiling water may be added to that which is taken from the spring, to bring the whole to a moderate temperature.

There are many springs of simple chalybeate water in different parts of Great Britain, and even in the neighbourhood of London, which probably are little inferior in medicinal virtue or intrinsic strength to Tunbridge Wells, though these have acquired a higher reputation. Pure air, temperate living, regular and early hours, active diversions, agreeable company, and a total exemption from all concern, except a rational desire to promote health, are the only circumstances that cause any real difference in the use of waters so similar in quality. This difference, however, is considerable; and the want of some of those co-operating circumstances will always prevent the springs of Islington or Hampstead from being set in com-

petition with those of Tunbridge, for the certainty of their effects. The remarks which I have made on the proper method of drinking the latter, as well as on the disorders and particular habits of body to which they are adapted, are equally applicable to all waters of the same description in our island. But there are a few chalybeates on the continent, particularly those of the German Spa and of Pyrmont, which, being more active and powerful in their operation, require to be used with greater caution and delicacy.

The only peculiarity in the virtues or medicinal effects of these waters is, that, when diluted with new milk, they are found very serviceable in gouty cases, and may therefore be safely prescribed in this form, during the intervals of the fits and the absence of inflammatory symptoms.

It is fortunate for a patient who cannot go to drink either of those waters at the fountain head, that they may be conveyed to any distance, and will retain their medicinal properties, with little or no diminution, for two years, if they are enclosed in bottles well corked, and covered with cement. They contain so much fixed air, that it is usual, after filling the bottles, to leave them uncorked for a while, in order to let the excess of the fixed air escape, as its expansion might burst the bottles, if they were to be instantly corked and removed to a warm place.

The other species of this class of waters, which come next to be noticed, are the saline or purging chalybeates; so called, partly from their contents and partly from their mode of operation. Besides iron and fixed air, which they have in common with the simple chalybeates, they hold in solution such a quantity of purgative salt as gives them a regular and strongly marked determination to the bowels. Any chalybeate, whether of the milder sort, as the Tunbridge water, or of the rougher, as those of the German Spa and of Pyrmont, will often purge briskly at first; but this is not their certain or constant effect. It seems to depend on the previous habit, or the actual state of the patient's stomach and bowels. It also goes off very soon, and is followed by a tendency to costiveness. But the purging chalybeates commonly operate in the same regular, constant, and uniform manner, as long as they are continued. The chief springs of this description in England are those of Cheltenham and Scarborough, upon the medicinal properties of which I shall now make a few remarks.

The Cheltenham waters require no preparation; but the quantity sufficient to produce the desired effect on the bowels, can only be known by experience. Half a pint is as much as any patient can well drink at a time; and this may be repeated three or four times, at proper intervals, in the course of the day, according to its operation, or to the intention with

which it is taken. Four doses, of half a pint each, contain about a quarter of an ounce of purging salts, with somewhat more than a grain of iron held in solution by four ounces in bulk of fixed air. As purgatives act very differently in different habits, the quantity here mentioned will operate briskly upon some patients, but so weakly upon others as to render the occasional addition of the crystallized salts necessary, where a powerful and speedy effect is desired. On the other hand, the quantity of the water, or the number of doses, may be lessened, when it is used merely as an alterative. But even persons of very delicate habits may divest themselves of their usual prejudices against cathartics, as those saline chalybeates do not occasion griping or languor. The only unpleasant sensation, which they sometimes excite on first drinking them, is a sort of giddiness or a slight headache, which soon goes off; but their agreeable and salutary effects are not so transient. They improve the appetite, strengthen the stomach, and promote general alertness, while they correct and carry off the impurities of the whole system. Hence it is that they may be persevered in for a considerable length of time, and the body kept moderately open by their uninterrupted use, without the least debility or inconvenience. These remarks, however, admit of some exceptions, particularly when the constitution is either naturally very weak, or much enfeebled by disease, without any marks of obstruction, or of acrimony in the fluids. A constant operation on the bowels would in such cases prove very injurious.

Cheltenham water has often been found of the greatest service in glandular and visceral obstructions, in a variety of bilious and scrofulous complaints, in the first symptoms of a dropsical disposition, and in many of the most distressing scorbutic eruptions and ulcerations on the skin. But the obstinacy of some of these can only be overcome by perseverance. In our endeavours to obtain a cure of any disease of the chronic kind, we should not forget, that complaints, slow in their progress, go off also very slowly; and that, according to the judicious remark of Celsus, *time is necessary to remove the deep-rooted evils which time has occasioned.*

The proper seasons for drinking the waters of Cheltenham is the summer; and as the warm-bath may also be advisable in some of the cases to which the waters are suited, the town is well supplied with accommodations for that purpose.

The saline chalybeate at Scarborough does not contain above a third part of the purging salts which are found in a like quantity of the Cheltenham water. Of course, it cannot be supposed to operate with the same force and activity, unless larger doses are taken than most stomachs will bear, or unless the powers of the water are increased by the addition of some

opening salts of the like kind as those which it already holds in solution. In its natural state, it is chiefly employed as an alterative; but may, by the artificial means just mentioned, be adapted to all the complaints in which the Cheltenham water is found efficacious. Neither of them will keep well even in close bottles, or bear to be carried any great distance, as the iron is deposited in a few days, though the saline impregnation continues. By evaporating the water, the purgative salts are procured, for the purpose of being again dissolved in some more water from the same spring, to increase its operation on the bowels.

The inferiority, in point of strength, of the Scarborough water, is more than counterbalanced by other advantages which Cheltenham does not possess. In the first place, near the saline chalybeate spring there is another spring of simple chalybeate water, like that of Tunbridge Wells, which is very convenient for patients, in cases where a determination to the kidneys may be desirable. But the situation of Scarborough on the coast is an object of still greater importance, as it affords an opportunity of bathing in the sea, so conducive to the cure of many of the disorders for which those springs are resorted to. The elevation of the ground, and the uncommon purity of the air, deserve all peculiar notice in a medical survey of the local advantages of Scarborough.

It is remarkable, that all the saline chalybeates in our island are cold, while many of those on the continent are hot, and are used as baths, as well as internally, in a number of diseases very difficult of cure. I shall therefore reserve my account of one or two of the most celebrated of them, till I come to describe our own hot-baths, though the foreign ones, on account of their principal ingredients, may be said more strictly to belong to the class of waters which I have just been considering.

The details before entered into respecting the external and internal use of the sea-water, and its admirable effects, not only as a grand preservative of health, but as an efficacious restorative of that blessing in various complaints, preclude the necessity of saying much of the second class of mineral waters, denominated the simply saline, and differing from common water only in being impregnated with some purging salts. We have several of these springs near the metropolis; but they are little used, as it is so easy to procure the sea-water, which is much superior to all others of this description, in the strength of its saline ingredients, and the certainty of its effects. Epsom water, though one of the first of the salt springs that was brought into use, is now seldom or never prescribed. Bagnigge Wells, those at the Dog and Duck in St. George's Fields, as well as at Kilburne and Acton, have also had their

day of medicinal reputation; but even recommendatory essays and pamphlets can no longer prop up their fame. The portion of salts which they contain is not sufficient to act with certainty on the bowels, unless they are taken in such large quantities as delicate stomachs cannot bear, and as very few people can swallow without difficulty and disgust. Two or three pints must be taken one after the other, in a short space of time, to ensure the full purgative effect. On this account, when they were in vogue, it was a common practice to administer more convenient doses, smaller in quantity, but strengthened by an additional solution of some of the same salt as that which they already contained. But this differs so little from an artificial dose of physic, as almost to destroy the idea of a remedy prepared by nature. Besides, the facility which our insular situation affords of procuring salt-water of the greatest efficacy from its grand reservoir, must lessen the value of those substitutes. Local convenience has certain contributed its share to the high repute of a spring of the like kind at Sedlitz, a village in Bohemia, which, being much more strongly impregnated with bitter purging salt that the Epsom water, can be more relied upon for its medicinal effects, and is therefore very justly esteemed in a part of the continent far removed from the sea.*

But there is another saline spring in Germany, a more particular account of which must be interesting to the English reader, not only from the peculiarity of its nature and virtues. but because large quantities of it are imported into this country for medicinal purposes. Few mineral waters have acquired a greater degree of celebrity than those which are brought from Seltzer, and which may be said to form a peculiar species, being saline and slightly alkaline, with a strong impregnation of fixed air. This quickly evaporates on being exposed to the atmosphere, so that the water designed for exportation must be instantly bottled, and kept closely corked, with the mouths of the bottles well covered with cement, or it will soon become not only vapid but putrescent. If well preserved, when poured into a glass, it is perfectly clear and sparkling, and has a gentle saline, and somewhat pungent or acidulous taste: but if the fixed air be suffered to escape, through the least neglect, the water appears turbid, is offensive to the smell, and entirely loses its pungency. The stone bottles, in which it is brought to England, contain about three pints each, a sufficient quantity for a day, to be taken in half-pint glasses at convenient intervals. Its natural flavour is rather agreeable,

[* *Seidlitz-powders*, a modern medicine, in high repute for allaying constitutional irritation by improving the state of the digestive organs, owes its origin to, and is an imitation of, this German spring. See Appendix, *Seidlitz-powders*.—Ed.]

and its effects on the spirits are in general exhilarating. Persons of very irritable stomachs may dilute it with milk; in which mixed state it is particularly recommended in cases of hectic fever with expectoration. It corrects and diminishes the discharge from the lungs, checks the violence of the sweats, and contributes very much to the patient's repose.*

In a few of the waters already described, we can discover a slight impregnation of sulphur; but where this principle abounds or predominates, the waters are distinguished by the name of sulphureous, from their chief ingredient. The springs of Harrowgate take the lead in this class, and are certainly deserving of the reputation they have acquired, though they are also very frequently used with great indiscretion; and as the same error is very common in drinking the other strong purgative mineral waters, I shall take this opportunity of enlarging upon it.

A very hurtful prejudice prevails in this country, that all diseases must be cured by medicines taken into the stomach, and that the more violently these medicines operate, they are the more likely to have the desired effect. This opinion has proved fatal to thousands, and will, in all probability, destroy many more, before it can be wholly eradicated. Purging is often useful in acute diseases, and in chronical cases may pave the way for the operation of other medicines; but it will seldom perform a cure; and, by exhausting the strength of the patient, will often leave him in a worse condition than it found him. That this is frequently the case with regard to the more active mineral waters, every person conversant in these matters will readily allow.

Strong stimulants applied to the stomach and bowels for a length of time, must tend to weaken and destroy their energy; and what stimulants are more active than salt and sulphur, especially when these substances are intimately combined, and carried through the system by the penetrating medium of water? Those bowels must be strong indeed, which can withstand the daily operation of such active principles for months together, and not be injured. This, however, is the plan too generally pursued by those who drink the purging mineral waters, and whose circumstances permit them to continue long enough at Harrowgate, and the like places of fashionable resort.

[* We need not import water from Germany or elsewhere; with our knowledge of chemistry, we are enabled to analyze, and to determine the exact proportion of all the ingredients of *mineral waters*, and hence we can imitate them with the utmost precision. But our patients prefer resorting to the fountain-head, for reasons which are perfectly obvious in the foregoing pages.—Ed.]

Many people imagine that every thing depends on the quantity of water taken, and that the more they drink, they will the sooner get well. This is an egregious error; for while the unhappy patient thinks he is by this means eradicating his disorder, he is often, in fact, undermining the powers of life, and ruining his constitution. Indeed, nothing can do this so effectually as weakening the powers of digestion by the improper application of strong stimulants. The very essence of health depends on the digestive organs performing their due functions, and the most tedious maladies are all connected with indigestion.

Drinking the water in too great quantity not only injures the bowels, and occasions indigestion, but generally defeats the intention for which it is taken. The diseases, for the cure of which mineral waters are chiefly celebrated, are mostly of the chronic kind; and it is well known that such diseases can only be cured by the slow operation of alteratives, or such medicines as act by inducing a gradual change in the habit. This requires length of time, and never can be effected by medicines which run off by stool, and operate chiefly on the first passages.

Those who wish for the cure of any obstinate malady from the Harrowgate waters, or others of the sulphureous or saline class, ought to take them in such a manner as hardly to produce any effect whatever on the bowels. With this view, a half-pint glass may be drank at bed-time, and the same quantity an hour before breakfast, dinner, and supper. The dose, however, must vary, according to circumstances. Even the quantity mentioned above will purge some persons, while others will drink twice as much without being in the least moved by it. Its operation on the bowels is the only standard for using the water as an alterative. No more ought to be taken than barely to move the body; nor is it always necessary to carry it even this length, provided the water goes off by the other emunctories, and does not occasion a chillness or flatulency in the stomach or bowels. When the water is intended to purge, in cases where the nature of the patient's complaint requires a strong determination to the bowels, it may be necessary to drink a pint or two before breakfast.

I would not only caution patients who drink those waters over night, to avoid hearty suppers, but also against eating heavy meals at any time. The stimulus of water, impregnated with sulphur and salts, seems to create a false appetite. I have seen a delicate person, after drinking the Harrowgate waters of a morning, eat a breakfast sufficient to have served two ploughmen, devour a plentiful dinner of flesh and fish, and, to crown all, eat such a supper as might have satisfied a hungry porter. All this, indeed, the stomach seemed to crave,

but this craving had better remain not quite satisfied, than that the stomach should be loaded with what exceeds its powers. To starve patients was never my plan; but I am clearly of opinion, that, in the use of all the strongly purging mineral waters, a light and rather diluting diet is the most proper; and that no person, during such a course, ought to eat to the full extent of what his appetite craves.

Exercise is not less conducive to the salutary end in view than temperance. It promotes the operation of the waters, and carries them through the system. It may be taken in any manner that is most agreeable to the patient; but he ought never to carry it to excess. I scarcely need repeat a remark often made in other parts of this work, that the best kinds of exercise are those connected with amusement. Every thing that tends to exhilarate the spirits, not only increases the efficacy of the waters, but acts as a medicine. All those who repair to the fountains of health, ought therefore to leave every care behind, to mix with the company, and to make themselves as cheerful and happy as possible. From this conduct, assisted by the free and wholesome air of those fashionable places of resort, and also the regular and early hours which are usually kept, the patient often receives more benefit than from using the waters.

During my residence at Harrowgate, I met with many instances of the most mischievous effects produced by drinking the waters in cases where they were absolutely improper, and adverse to the nature of the disease. When people hear of a wonderful cure having been performed by some mineral water, they immediately conclude that it will cure every thing, and accordingly swallow it down, when they might as well take poison. Before patients begin to drink the more active kinds of mineral waters, they ought to be well informed of the propriety of the course, and should never persist in using them when they are found to aggravate the disorder.

On the other hand, I often witnessed the happy issue of experiments made with judgment and caution at Harrowgate, when the greatest benefit was derived from the proper use of the waters in various eruptions on the skin, of the most distressing nature; in rheumatism complicated with scorbutic complaints; in obstructions of the glandular and lymphatic system; and in diseases of the first passages, accompanied with, or proceeding from, inactivity of the stomach and bowels, acidity, indigestion, vitiated bile, worms, putrid sordes, the piles, and jaundice. They answer two very important purposes; first, when taken in small quantities, acting as an alterative, and inducing, by their mild operation, a gradual change in the habit; and, secondly, when employed in larger doses, where purging is intended, fulfilling that intention in the

most desirable manner, without irritating the nerves, or weakening the patient so much as other purgatives. After a little use, almost every body can drink them without any great disgust, though they are at first no less nauseous to the taste than offensive to the smell.

I shall only add, that the exernal use of the Harrowgate waters being justly deemed a very powerful auxiliary in many of the disorders for which they are resorted to, particularly those of the cutaneous class, there are proper baths for this purpose, to the supply of which three springs out of four are devoted, that which is reserved for drinking being more strongly impregnated with salt and sulphur than the rest.

The sulphureous and saline waters of Moffat in North Britain are almost as much resorted to as those of Harrowgate. The impregnation of the former, indeed, is not so strong as that of the latter, and their effects are of course somewhat different. Two or three quarts of the Moffat water may be drank in a morning, without any sensible effect but that of increasing the flow of urine. It now and then purges; but this is so far from being its constant or regular mode of operation, that opening medicines are almost always necessary during a course of it. Its evident determination to the kidneys renders it of essential service to persons afflicted with the stone and gravel, particularly the latter. It has likewise afforded great relief in many bilious complaints, and in the early symptoms of a scrofulous habit. But its chief point of celebrity, and that in which it may be said to rival the springs of Harrowgate, is the cure of cutaneous eruptions of every kind. In these cases, the external application of the water, warmed to a considerable temperature, is very judiciously made a material part of the plan of treatment. One disadvantage, however, attends this process both at Moffat and Harrowgate. The waters, while heating, unavoidably lose in vapour some of their sulphureous impregnation, on which part of their efficacy, even when externally applied, must depend. So far, therefore, a preference is justly due to the naturally hot sulphureous springs of Aix-la-Chapelle and Bareges, of which I shall take some farther notice, after I describe the thermal springs in our own island, which constitute the next and last class in my arrangement of mineral waters.

In the introductory part of this section, the waters which now remain to be considered are specifically distinguished by the title of calcareous, because they contain more lime or calcareous salts than they do of any other solid substance. I adopted this title, however, in compliance with custom, and merely as a nominal distinction, rather than from considering it as an important characteristic, or by any means expressive of the grand cause of the efficacy of such waters. It is not to

chemical analysis, but to experience that we are indebted for a knowledge of their virtues; and, instead of giving them a name taken from a part of their contents, which conveys no useful information, we had better simply call them hot springs, as every body will then have a clear idea of the most perceptible difference between them and all the other mineral waters in our island.

In this part of our description, the hot springs of Bath have the most indisputable claims to precedency. The fame of their medical virtues is more widely diffused and more firmly established than that of any other springs in the known world. It is no wonder, therefore, that the pen of industry, of genius, or of ambition, should have been often exercised upon so popular a topic. Amidst such a multitude of books, Dr. Falconer's "Practical Dissertation on the Medicinal Effects of the Bath Waters," is acknowledged to be the best account which has yet appeared of what he justly calls a "powerful, but (in many instances) nice remedy." His situation as physician to the Bath Hospital must have afforded him the best opportunities of observing the effects of those waters; and he has given the most satisfactory proofs of his being well qualified to profit by those opportunities. One of his remarks is really of more consequence than a whole volume of chemical investigations, which have thrown just as little light upon the efficacy of the waters as the fables concerning Bladud, or the frequently discovered fragments of Roman antiquities. Chemistry, indeed, makes us acquainted with the component parts of those waters, and tells us they contain a good deal of calcareous salts, but little, if any, neutral alkaline salts; and that they are impregnated with about a sixtieth part in bulk of fixed air, which holds in solution so very small a quantity of iron as to be scarcely appreciable, though it gives a slight chalybeate taste to the water when hot from the spring. But what inference could we deduce from these and the like amusing details, in the treatment of any particular disease? It is then to the enlightened pratitioner, as I said before, that we must look for useful information; and, in this view of the subject, we cannot wish for more respectable authority than that of Dr. Falconer.

According to this writer, the Bath water, when drank fresh from the spring, has in most persons the effect of raising and rather accelerating the pulse, increasing the heat, and exciting the secretions. The action on the nervous system is felt at the same time, so that the stimulating properties of the water must be very diffusive; and, what is farther remarkable, though these symptoms come on suddenly, yet they often continue much longer than we can suppose them to be excited by the actual presence of the water in the body.

The Bath waters not only promote urine and perspiration, but also increase the salivary discharge; and quench thirst better than any other fluid, in cases where there is no tendency to fever. If any disposition of this kind should appear, a hot stimulant would be evidently improper.

It has been generally imagined, that those waters were somewhat astringent, on account of the costiveness which frequently accompanies the use of them. But this effect is more reasonably ascribed to their heating qualities, and to their power of exciting the other secretions. As a proof of this, when perspiration is checked in cold weather, they sometimes prove slightly purgative.

The relief which the Bath waters afford in the colic, in convulsive retchings which often attend the gout in the stomach, and in many other similar affections, is a sufficient evidence of their antispasmodic powers.

This account of the primary and immediate effects of the water used internally will enable any patient to judge, from his own feelings, whether it agrees with his constitution or not. If it excites, on being first taken, a pleasing glow in the stomach, followed by an increase of spirits, and of appetite, particularly for breakfast, and, above all, a rapid determination to the kidneys, there is the greatest probability of its proving serviceable. But if it occasions headache, thirst, and dryness of the tongue; if it sits heavy on the stomach, or produces sickness, and does not pass off by urine or perspiration; it may be fairly concluded, that its continuance would do injury, unless these symptoms can be removed.

If we come next to consider the external application of those waters, we shall find, in the first place, that they unite all the medicinal advantages of warm baths, from about a hundred and six degrees of heat to any inferior degree that may be desired. The extent also of the baths, which affords room to move about in them freely, and the permanence and uniformity of their warmth, are no unimportant recommendations. But Dr. Falconer is of opinion, that the Bath waters possess some farther powers or specific qualities superior to those of common water of the same temperature. He thinks that their action on the nervous system is more stimulating than a common warm-bath;—that they raise the pulse and heat of the body to a higher degree, yet are much less apt to produce a violent perspiration;—that they remarkably increase the urinary discharge;—and that, so far from causing any relaxation or weakness, the bathers are observed to be in general more alert and vigorous, and to have a better appetite on the days of bathing than in the intervals. As far as my own opportunities of observation extended during a few short visits at Bath, they are in perfect concurrence with the Doctor's opinion.

The diseases, in which this eminent practitioner very accurately describes the good effects of the Bath waters, are the green sickness, particularly before any considerable affection of the stomach takes place, or any feverish symptoms appear; visceral obstructions, when the consequences of intermittent fever, or of long residence in hot climates, if the disorder in these cases has not advanced too far; the palsy, from a great variety of causes; the gout, in that stage of the complaint when the inflammatory symptoms, if any have proceeded, have in a good measure abated, and a degree of weakness and want of tone in the system begins to take place; the chronic rheumatism, and the acute also, provided the feverish disposition be previously allayed by proper evacuations; white swellings on the knee; hip cases; weakness of the organs of digestion; the colic, accompanied with hysteric symptoms, or produced by the poison of lead; the jaundice, when arising from simple obstruction of the biliary ducts; hypochondriac and hysterical complaints; St. Vitus's dance; spasmodic affections of the womb, and painful menstruation; and, lastly, in many cutaneous, but more especially leprous, eruptions.

I have confined myself here to a bare outline, which may be sufficient for the general direction of valetudinarians, who must avail themselves of more particular advice at the fountain head. Almost every case will require a peculiar mode of treatment; and great caution will be found necessary to prevent fatal mistakes. I cannot too often repeat, that the more powerful any remedy is, the more liable it is to abuse; and though the efficacy of the Bath waters has been fully established in a variety of the most stubborn and afflicting disorders, yet their misapplication has also been often attended with very serious consequences.

Even when the use of the Bath waters may be deemed safe or proper, consideration must be had, as Dr. Falconer justly observes, to the quantity taken in, when they are drank; and to the time of stay in the bath, heat of the water, &c. when they are externally used.

The safest method is to begin with drinking a glass, containing about a quarter of a pint, before breakfast; and to judge from its effects how often it may be repeated or the quantity enlarged. If it feels easy, warm, and cordial to the stomach and spirits, and excites no pain or sense of fulness in the head or eyes, a second glass of the same size may be taken the same day at noon, and this quantity gradually increased to a pint in the day, taken at two or three times, as convenience may suit. This is deemed a proper medium for the generality of people, though in some cases, where the habit is not very irritable, the daily allowance may be augmented to a pint and a half, with safety and benefit. The Cross Bath water, the

temperature of which, when fresh from the spring, is 112°, is usually recommended at the commencement of a course, especially when there is any affection of the head, or when any tendency to plethora appears in the system. After some time, the more powerful water of the King's, or the Hot Bath, which is four degrees higher in temperature, may be used; and this change will prevent, in some measure, the disgust which is apt to come on after a long trial of the Bath waters.

No less regard should be paid to the proper use of the bath. A short stay of five or six minutes is most advisable at first; and if this trial produces no symptoms that are disagreeable, but, on the contrary, seems to improve the health, spirits, and strength, a longer stay may be gradually indulged, till it comes to half an hour, but never to cause lassitude, faintness, or disgust. The choice of the baths is often a matter of importance, as there is a still greater variation in the temperature of the waters when in the baths than at the pumps, the waters in the King's, or the Hot Bath, being from eight to twelve degrees warmer than those in the Cross Bath. There are also private baths, of any temperature to suit the peculiarities of every patient's habit or complaint. The best time in general for bathing is the morning; and it may be repeated twice, or at most thrice a week. As the public baths are emptied soon after nine o'clock, a much earlier hour is usually chosen for bathing; but the private baths may be prepared at any hour of the day. Where a greater stimulus than mere immersion is thought necessary, or where a partial application of the water is deemed preferable to a general one, the part may be pumped upon, so as to increase the forcible action of the water on that part, and yet prove less heating to the system at large.

There are no springs in our island besides those at Bath, which can be strictly called hot, though a few others have got the name, and are referred to this class of thermal waters, from being, invariably in every season, and independently of the state of the atmosphere, warmer than the general average of the heat of common springs. The temperature of the Buxton waters is only 82°, yet approaches nearest to that of the hot springs at Bath, which, in their coolest state, are never lower than 90°. In other sensible properties the Buxton water differs very little from common pump water.

The medicinal effects of the Buxton waters, however, are far from being inconsiderable. Taken internally in small doses at different intervals, amounting to near a pint before breakfast, and the like quantity before dinner, they afford very great relief in heart-burn, flatulency, sickness at the stomach, and other distressing symptoms of defective digestion and derangement of the alimentary organs, the sure attendants of indolence and luxury. In such cases, the body must be kept regularly

open by means of medicine during the use of the waters, if these do not, as they sometimes will, produce a laxative effect, which is always salutary. They are no less serviceable in alleviating painful affections of the kidneys and bladder; and here also the external use of the waters is often found to promote their internal operation.

But the employment of the Buxton waters as a bath is not confined to the relief of gravelly complaints. They contribute far more effectually to restore the healthy action of particular limbs, that may have lost their moving powers in consequence of long or violent inflammation, occasioned either by external injury, or preceding acute rheumatism. But if the rigidity, weakness, or impaired functions of the parts affected, be the consequence of a paralytic stroke or of gouty inflammation, more benefit will be experienced from the warmer temperature of the Bath waters.

In general, the Buxton bath is well suited to such a languid, enfeebled, or very irritable state of the habit, as cannot bear absolutely cold water, but may be excited to easy and salutary re-action by a milder stimulus. The slight shock, which people feel at the instant of immersion in the Buxton waters, is almost immediately followed by a pleasant glow all over the body; and this is precisely the effect aimed at. But I have expressed myself so fully on the nature of the particular infirmities to which the lukewarm-bath is adapted, as to render any farther observations on this head unnecessary.

The tepid springs at Matlock approach still nearer to cold water than those at Buxton, being sixteen degrees lower in point of temperature. The shock, which they give on immersion, is consequently stronger, and requires greater powers of re-action in the habit; but they form a good intermediate bath between Buxton and the sea. They are therefore very properly employed in preparing invalids for the latter, when this is necessary to complete a cure, as if often the case in a chronic rheumatism. They are used internally as a pure diluting drink, but are not known to possess any other remarkable medicinal properties.

The Hotwell, as it is improperly called, near Bristol, is not, indeed, so cold as the springs at Matlock, but does not rise to the temperature of those at Buxton, being only 74°, or twenty-two degrees below the ordinary warmth of the blood in a state of health. The Hotwell water is not made use of to bathe in; but, taken internally, it has acquired very high reputation for curing the incipient symptoms of consumption, and affording considerable relief in the more advanced stages of this disease. As the effects it produces are very gradual, its agreeableness to the palate is a fortunate circumstance for a class of patients who can only hope by long and steady perseverance to check

the progress of one of the most insidious destroyers of the human species. There is no doubt but they are also indebted for a part of the relief they experience, to the mild, sheltered, yet sufficiently ventilated situation of the Hotwells, and to the judicious plan of diet, exercise, and amusements pursued there.

The other complaints, in which the purity and temperature of the Hotwell water render it very grateful, and of no small efficacy, are relaxations of the stomach and bowels, brought on by long residence in hot climates; bilious diarrhœa, and slight dysentery.

Particular habits and complaints require variations in the quantity to be taken of this, as well as of any other mineral water. The full dose is half a pint, to be drank early in the morning and repeated before breakfast, at the interval of at least half an hour spent in gentle exercise. Two more doses of the like quantity, and with the like interposition of active amusement, are to be taken between breakfast and dinner, at the longest distance from each of those meals. As this water is also used at table and for domestic purposes, every invalid unavoidably takes more than the above quantity every day; but in consequence of its altered temperature, and of the loss of the fixed air it contained, it cannot be in so high a state of medicinal perfection as when drank fresh from the spring. The same remark must of course apply to the immense quantities that are bottled for exportation, though the almost proverbial purity and softness of the water, as well as its excellent property of keeping untainted for a great length of time in hot climates, must render it a very valuable water for long voyages.

I shall subjoin to these observations on the medicinal virtues of our own thermal waters, a short account of the most celebrated hot springs on the continent.

There is none of the foreign watering places more resorted to than the German Spa, (of which I already took notice among the cold chalybeates,) and Aix-la-Chapelle, about twenty-four miles distant from the former, and equally famous for waters of a very different quality and temperature. Their celebrity is traced back even to the days of Charlemagne, who resided for a long time at Aix, and took so much delight in the use of the waters, as frequently to hold his levee in the bath, with all his attendants.

The exact degree of the heat of these waters is given differently by different observers; but, taking the average of their accounts, it may be reckoned in the well of the hottest bath at 140°, and at the fountain where it is drank, about 120°. It requires to stand several hours in the large baths, before it is sufficiently cooled for tepid bathing, without the addition of

cold water. It contains an uncommon quantity of sulphur, and emits a smell like that of Harrowgate water, but far more penetrating. From its heat, and its stronger impregnation of the sulphureous principle, it is also more powerful in all the diseases of the skin, for which Harrowgate is resorted to. The baths at Aix-la-Chapelle are looked upon as a certain cure for almost every cutaneous eruption; but the water should be used internally at the same time, to carry off impurities, and keep up the full perspiration promoted by the bathing. These baths are equally serviceable in stiffness of the joints and ligaments, which is left by the inflammation of gout and rheumatism, and in the debility of palsy, where the highest degree of heat which the skin can bear is required. In obstinate cases, the vapour bath, formed by the steam of those very hot waters, is recommended by the German physicians.

Numberless instances serve to establish the efficacy of the waters of Aix as an internal medicine in painful affections of the kidneys and bladder, as well as in disorders of the stomach and biliary organs occasioned by luxurious indulgence and intemperance. The common dose is half a pint, to be repeated more or less often, according to its sensible effects, and to the intention with which it is prescribed, either as a purgative or a diuretic. It is a striking proof of the power of habit, that the palate and stomach are soon reconciled to the use of such waters, though at first extremely disgusting and nauseous.

The hot sulphureous springs at Bareges, two little hamlets on the French side of the Pyrenean mountains, are, indeed, inferior in the degrees of heat and strength of impregnation to the waters of Aix-la-Chapelle, yet are found very beneficial in the like complaints. Their highly detergent powers, owing perhaps to a small portion of oily or bituminous matter, added to the other medicinal properties which they possess in common with those of Aix, render them peculiarly efficacious in deep-seated ulcers, and those morbid affections of the womb, which French ladies call, though not with medical correctness, *depôts de lait*. In such cases, the waters are injected. They are also very frequently used in the form of *douche*, or by way of pumping on the part affected, as well as for general bathing.

In the interior parts of France, particularly in the central provinces of Auvergne and the Bourbonnois, now included in the department of the Loire, there are several hot springs, but of the saline chalybeate class, the efficacy of which, as an internal medicine, is greatly increased by their higher degree of temperature, in the disorders for which Cheltenham is resorted to in our own country. Those French springs derive

another very important advantage from their heat, that of being used as a bath in all cases which may require that salutary stimulus on the surface. In many of these, the internal and external use of the waters co-operate with wonderful effect; and particularly in the sexual complaints of women, arising from any defect or irregularity in the functions of the uterine organs. Catherine de Medicis, the mother of several French princes, is said to have been much indebted for her fertility to the waters of Bourbon Lancy, not far from the town of Moulins, a place consigned to immortal fame by Sterne's affecting story of Maria.

There is a village on the confines of Bohemia, where the waters may be said, in the strictest sense of the word, to boil up with vehemence from the spring, and are often used for scalding hogs and fowls, to loosen the hair and feathers, their heat being quite sufficient for these purposes. The temperature of the Prudel, or furious fountain, as it first issues forth, is as high as 165°, and keeps invariably to the same point. Of course it requires to be very much cooled, before it can be used as a bath, or even drank. Those waters are said to have been resorted to, and first brought into considerable notice, by the emperor Charles IV. in 1370; to which circumstance the village owes its name of Charlshad, or Charles's bath, The natural history of its waters would afford a great variety of curious and interesting particulars; but the limits of my present plan confine me to a short medical notice of their extraordinary virtues in all the diseases for the cure of which saline chalybeates are internally or externally employed.

CHAP. LXI.

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 any where else, it does not follow that they live better. They are strong indeed, but by no means healthy; and

it is found that, from an attachment to a particular mode of living, they are more liable to disease and death in foreign climes, than the inhabitants of any other country.

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

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

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

By the uninterrupted use of animal food, a putrid diathesis is induced in the system, which predisposes to a variety of disorders. I am fully convinced, that many of those

obstinate complaints for which we are at a loss to account, and find it still more difficult to cure, are the effects of a scorbutic taint lurking in the habit.

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

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

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

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

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

Of Bread.

Bread, or something resembling it, makes a part of the diet of all nations. Hence it is emphatically denominated the staff of life. It may, however, be used too freely. The late Dr. Fothergill was of opinion, and I perfectly agree with him, that most people eat more bread than is conducive to their health. I do not mean to insinuate that bread is unwholesome, but that the best things may prove hurtful when taken to excess. A surfeit of bread is more dangerous than 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 for filling up the alimentary canal, and carrying the nutritious juices along that passage in such a state, as to render them fit to be acted upon by the lacteal absorbents, which take up the nourishment and convey it to the blood. In this light, bread may be considered as a soil from whence the nourishment is drawn. I do not say that bread contains no nourishment, but that its use, as an article of diet, does not solely depend on the quantity of nutriment it contains, but in some measure on its fitness as a vehicle for conveying the nutritious particles through the intestinal tubes. Hence it follows that the finest bread is not always the best adapted for answering the purposes of nutrition.

The richest food will not nourish an animal, unless the alimentary canal is sufficiently distended. A dog has been fed on the richest broth, yet could not be kept alive; while another, which had only the meat boiled to a chip, and water, throve very well. This shews 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 burdened with two heavy additional charges, in passing through the hands of both the miller and the baker. Besides, the former often grind 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 counties eat a mixture of flour and oatmeal, or rye-meal, and many give the preference to bread made of oatmeal alone. The common people of Scotland also eat a mixed bread, but more frequently bread of oatmeal only. In Germany, the common bread is made of rye, and the American labourer thinks no bread so strengthening as that which is made of Indian corn; nor do I much doubt but the Laplander thinks his bread made of the bones of fishes is the best of any.

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

For the more active and laborious I would recommend a mixture of rye with the stronger grains, as pease, beans, barley, oats, Indian corn, and the like. These may be blended in many different ways: they make a hearty bread for a labouring man, and, to use his own language, they lie longer on his stomach than bread made of wheat-flour only. Barley bread passes too quickly through the alimentary canal to afford time for conveying the proper nourishment; but bread made of barley mixed with pease 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 inconvenience whatever from the change. Nay, some told me, that for a considerable time they had left off the use of bread altogether, without experiencing any change in the state of their health.

A great part of the bread consumed in this country is by children. It is always ready, and when the child calls for food, a piece of bread is put into its hand, to save the trouble

of dressing any other kind of victuals. Of many children this is the principal food, but it is far from being the most proper. Children are often troubled with acidities of the stomach and bowels; and it is well known that bread mixed with water, and kept in a degree of heat equal to that of the human stomach, soon turns sour.

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

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

But the greatest consumption of bread is occasioned by tea. It is said that the subjects of Great Britain consume a greater quantity of that herb, than the whole inhabitants of all the other nations of this quarter of the globe. The lowest woman in England must have her tea, and the children generally share it with her. As tea contains no nourishment, either for young or old, there must of course be bread and butter to eat along with it. The quartern loaf will not go far among a family of hungry children, and if we add the cost of tea, sugar, butter, and milk, the expense of one meal will be more than would be sufficient to fill their bellies with wholesome food three times a day.

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

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

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

almost a complete conquest of the one sex, and is making hasty strides towards vanquishing the other.

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

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

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 pease, beans, &c. Even oats and barley are more agreeable, as well as more wholesome, when boiled, than made into bread.

All allow that pease 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 pease-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.

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

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

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

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

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

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

Persons who are fed on oatmeal bread, or hasty pudding, are not more subject to diseases of the skin, than those who live on wheat-meal. Cutaneous disorders proceed more from the

want of cleanliness, than from any particular aliment. The French, so far from thinking that oatmeal is heating, speak of it as possessed of a cooling quality; and even the English give oatmeal, or grit gruel, to lying-in women, and sick people of every description, which shews that they are inconsistent with themselves, in alleging that the blood is fired by the use of oatmeal.

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

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

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

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

On the same principle, the Germans, till within these few years, could not be induced to eat potatoes, though now they are become extremely fond of them.

The American, the Italian, and the German, all cook Indian corn in the same way as the North 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 favourite of the great Czar Peter, that he is said seldom to have supped on any thing 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 that is the case. To weak stomachs it is hurtful, even in small quantities, and, when used freely, it proves prejudicial to the strongest.

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

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

I have been astonished to see the quantities of butter eaten by gross women who lead sedentary lives. Their tea-bread is generally contrived so as to suck up butter like a 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 potato, and the like, butter makes a very proper addition; but eating it to flesh and fish, of almost every description, is certainly wrong. The flesh eaten in this country is generally fat enough without the addition of butter; and the more oily kinds of fish, as salmon or herrings, are lighter on the stomach, and easier digested, when eaten without it.

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

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

Butter, in itself, is not near so hurtful as when combined with certain other things. For example: bread made with butter is almost indigestible, and pastries of every kind are little better; yet many people almost live upon pastry, and it is universally given to children. It is little better, however, than poison, and never fails to disorder their stomachs. The fond mother cannot pass a pastry-shop, without treating her darling boy with some of the dainties, and then wonders how he got the cough or colic.

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

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

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

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

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 of bread; but reason and sound sense say, the more substitutes for bread, the better. When one fails, recourse can be had to another.

In warm climates the inhabitants have many substitutes for bread; and as their seasons are more uniform than ours, they can generally depend on the plant, or whatever it is, proving

productive. The plantain tree, commonly called the Indian fig, which has from time immemorial been cultivated in South America, bears fruit of a sweetish taste, which will dissolve in the mouth without chewing. It is eaten either raw, fried, or roasted. When intended to supply the place of bread, it is gathered before it is ripe, and eaten either boiled or roasted. The banana is nearly of the same nature, but its fruit is greatly superior both in taste and flavour.

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

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

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

Of all the substitutes for bread in Europe, the potato is the most extensively useful. This plant is a native of Peru, and has been in Europe about two hundred years. Like most other important discoveries, it made but a 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 Helvoetsluys. There is a light sandy soil in Holland, very favourable to the culture of that inestimable root.

As this plant thrives in every soil, and seldom suffers from the inclemency of seasons, we must blame ourselves if we suffer a famine to exist. Indeed, no such thing ever can be, where due attention is paid to the culture of potatoes. A far greater quantity of farinaceous food can be raised on an acre

of ground planted with potatoes, than sown with any kind of grain. It is not uncommon to have a return of forty for one. They are not so hearty a food as corn, but no man will ever perish for hunger who can have potatoes.

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

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

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

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

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 surprised, 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 that is a proof of its nutritive quality, sugar being the most nourishing thing in nature. We are told that, in the north of Ireland, the poor people make beer from this root.

There is not any plant that affords a more striking proof of the benefits of culture than the turnip. In its wild state it is good for little or nothing; but, when properly cultivated, it not only affords wholesome nourishment for man, but furnishes the principal winter food for cattle. There is a species of this plant which grows in North Britain, called the yellow turnip, which is sweet, and of a superior quality to those produced in

the south, particularly about London, which are bitter and stringy. The yellow turnip is the most nourishing, and also the most hardy in sustaining the winter. It is eaten with milk, to cure the scurvy. Margraaf says, he could extract no sugar from the turnip, which affords ground to conclude, that it is not so nutritive as certain other roots. Not only the root of the turnip, but the tops, when young, make very pleasant greens. The sprouts, if gathered when very tender, make an excellent salad.

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

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

The onion, we are told, was a great favourite in Egypt four thousand years ago, and Dr. Hesselquest 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 to wholesomeness, there is no method better than simple boiling. By this method of cooking, they are rendered mild, of easy digestion, and go off without leaving any disagreeable heat on

the stomach or bowels. Many shun them on account of the strong disagreeable smell they communicate to the breath. Mr. Bryant says, this may be remedied, by eating a few raw parsley leaves immediately after, which will effectually overcome the scent of the onions, and likewise cause them to sit more easy on the stomach.

The leek is generally reckoned among pot-herbs; but as the root is the part chiefly used, the consideration of it comes under the present head of discussion. Indeed, it is 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 tables of the Egyptians, who chop them small, and eat them with their meat.

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

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

I could mention a great many more esculent plants which might occasionally supply the place of bread, but the above specimen is sufficient to shew 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 favourite in this country. Here the people are fond of what they call solids; yet those very solids they make into broth, by swallow-

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[* Those readers who have time and inclination to peruse a work on this and other subjects appertaining to this head, are referred to Green's Botanical, Medical, and Agricultural Dictionary, a work of great merit and immense labour. We should like much to see an abridgment of it, and yet retain the plates.—Ed.]

ing as much drink after them as they can get. The only difference is, the foreigner makes his broth in a pot, and the Englishman makes his in the stomach.

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

The 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 justly recommended by the Count, has been practised in the northern parts of this kingdom from time immemorial. There the food of the common people is hasty-pudding, with milk, for breakfast and supper, and broth, with vegetables and meat, for dinner. The poorer sort often make broth without meat; but they all use vegetables in great abundance, and sometimes they supply the place of meat with butter. As the hasty-pudding and milk make a complete meal, no bread is necessary either at supper or breakfast; nor is much required at dinner, as the broth is made thick with barley, cabbage, and a variety of other vegetables or pot-herbs. Cabbage is a favourite in a Scotchman's broth. It is seldom made without this article, which is not eaten so early as in England. It is there suffered to grow to maturity, and, when that is the case, there is no plant more productive. This the Germans know well, and make it into 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 labourer who lives on hasty-pudding and soups, seldom has occasion for drink; while he who is burnt up with dry bread and cheese, or salt meat broiled, has a continual thirst, and spends the greater part of his earnings in liquor. This, by acting as a powerful stimulus, may make him do more work for some time, but it generally cuts him off in the middle of his days. The English labourer, who works hard and drinks hard, seldom lives long, and is an old man when he should be in his prime.

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

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

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

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

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

Count Rumford says, brown soup is the common breakfast of the Bavarian peasants, to which they occasionally add bread. This he avers is infinitely preferable in all respects to that pernicious wash, tea, with which the lower classes of the inhabitants of this island drench their stomachs, and ruin their constitutions. He adds, that a simple infusion of this drug, drank boiling hot, as the poor generally drink it, is certainly a poison, which, though it be sometimes slow in its operation, never fails to produce fatal effects, even in the strongest constitution, where the free use of it is continued for a considerable length of time.

The German on his polenta, the American on his mush, and the North 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 melasses. This will be found a more wholesome breakfast than tea, while it is much cheaper, and requires no bread.

CONCLUSION.

Although the place of bread may be occasionally supplied by farinaceous roots and other vegetables, yet we would by no means wish to discourage the culture of grain. The culture of grain is the culture of men. While the husbandman is raising food for his fellow-creatures, he is laying the foundation of health and longevity to himself and his offspring. Innumerable benefits are connected with the culture of grain. While the artificer is sitting in some awkward posture, breathing confined, and perhaps contaminated air, the cultivator of the soil rises with the sun, eats his wholesome meal of milk and farinaceous food, hies him to the field, where he spends the day in useful labour, inhales the fresh breezes, and at eve returns home with a keen appetite, to enjoy his simple repast and sound repose.

It has been said, as artificers can earn more money than those who cultivate the ground, that arts ought to be encouraged, and grain, if necessary, imported. No manufacture is equal to the manufacture of grain. It supplies food for man

and beast, while the surplus, by being exported, enriches the nation. Nor is it subject to the uncertainty of other manufactures. They often depend on fashion and caprice, but the necessaries of life will always find their value somewhere. Though I am convinced that some regulations are wanting for the encouragement of agriculture, I do not consider it as my province to dictate to the wisdom of the legislature. They know their duty, and I have reason to believe that they are inclined to pay it all due attention.

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

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

APPENDIX:

CONTAINING

The Method of Preparing and Compounding such Medicines as are recommended in the former Part of the Book, and of several others of a similar Nature.—Remarks on the Doses, Uses, and Manner of Applying the different Preparations.—With a Statement of the usual Contents of a Family Medicine Chest.

Medicamentorum varietas ignorantiæ filia est. BACON.

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 shewn. 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 flavour of some drugs, without entirely destroying their efficacy; it is possible, however, to render many medicines less disgustful, and others even agreeable; an object highly deserving the attention of all who administer medicine. 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 list 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 medicine as are to be found in the house or garden of almost every peasant, as barley, eggs, onions, &c. are likewise for the most part omitted. It is needless to swell a list of medicines with such things as can be obtained whenever they are wanted, and which spoil by being kept.

The preparations made and sold by distillers and confectioners are also generally left out. These people, by operating upon a larger plan, generally make things better, while it is in their power to afford them much cheaper than they can be prepared by any private hand.

The quantity ordered of every medicine is as small as could well be prepared, both to prevent unnecessary expense, and that the medicine might not spoil by keeping. Almost every medicine suffers by being kept, and should be used as soon after it has been prepared as possible. Even simple drugs are apt to spoil, and should therefore be laid in in small quantities; they either rot, are consumed by insects, or evaporate so as to lose their peculiar taste or flavour, and often become quite insignificant.

In the preparation of medicines, I have generally followed the most improved dispensatories; 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 colouring ingredients are likewise for the most part omitted. They increase the bulk and price of the medicine, without adding any thing to

its value. It would be well if they were never used at all. Medicines are often adulterated for the sake of a colour. Acrid and even poisonous substances are, for this purpose, sometimes introduced into those medicines which ought to be most bland and emollient. Ointment of elder, for example, is often mixed with verdigris to give it a fine green colour, which entirely frustrates the intention of that mild ointment. Those who wish to obtain genuine medicines should pay no regard to their colour.

Some regard is likewise paid to expense. Such ingredients as greatly increase the price of any composition, without adding considerably to its virtue, are generally either omitted, or somewhat less expensive substituted in their place. Medicines are by no means powerful in proportion to their price. The cheapest are often the best; besides, they are the least apt to be adulterated, and are always most readily obtained.

With regard to the method of compounding medicines, I have generally followed that which seemed to be the most simple and natural, mentioning the different steps of the process in the same order in which they ought to be taken, without paying an implicit regard to the method of other dispensatories.

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.

have followed the alphabetical order, both with regard to the simples and preparations. A more scientific method would have been agreeable to some persons, but less useful to the generality of readers. The different classes of medicine have no great dependence upon one another, and, where they have, it is hard to say which should stand first or last; no doubt the simple preparations ought to precede the more compound. But all the advantages arising from this method of arrangement do not appear equal to that single one, of being able, on the first opening of the book, to find out any article, which, by the alphabetical order, is rendered quite easy.

The dose of every medicine is mentioned whenever it appeared necessary. When this is omitted, it is to be understood that the medicine may be used at discretion. The dose mentioned is always for an adult, unless when the contrary is expressed. It is not an easy matter to proportion the doses of medicine exactly to the different ages, constitutions, &c. of patients; but, happily for mankind, mathematical exactness here is by no means necessary.

Several attempts have been made to ascertain the proportional doses for the different ages and constitutions of patients; but, after all that can be said upon this subject, a great deal must be left to the judgment and skill of the person who administers the medicine. The following general proportions may be observed, but they are by no means intended for exact rules. A patient between twenty and fourteen may take two-thirds of the dose ordered for an adult; from fourteen to nine, one half; from nine to six, one third; from six to four, one-fourth; from four to two, one-sixth; from two to one, a tenth; and below one, a twelfth.

Dispensatories are usually written in the Latin language. Even authors who write in English, generally give their prescriptions in Latin; and some of them shew 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.

N. B. The Apothecary's weights, and the English wine measures, are used through the whole book, the different denominations of which will appear from the following Table.—

A pound contains twelve ounces.
An ounce ..... eight drams.
A drachm ..... three scruples.
A scruple ..... twenty grains.
A gallon contains eight pints.
A pint . . .. sixteen ounces.
An ounce ..... eight drachms.
A spoonful is the measure of half an ounce.

MEDICINAL PREPARATIONS.

BALSAMS.

THE subject of this section is not the natural balsams, but certain compositions, which, from their being supposed to possess balsamic qualities, generally go by that name.

This class of medicines was formerly very numerous, and held in great esteem. Modern practice, however, has justly reduced it to a very narrow compass.

Anodyne Balsam.—Take of white Spanish soap, one ounce; opium, unprepared, two drachms; rectified spirit of wine, nine ounces. Digest them together in a gentle heat for three days; then strain off the liquor, and add to it three drachms of camphor.

This balsam, 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 moistened with it may be applied to the part, and renewed every third or fourth hour, till the pain abates. If the opium is left out, this will be the *Saponaceous Balsam.*

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 hypochondriac constitutions; but its principal intention is to expel worms. Where a stronger purge is necessary, jalap may be used instead of the rhubarb.

Purging Bolus.—Take of jalap, in powder, a scruple; cream of tartar, two scruples. Let them be rubbed together, and formed into a bolus with simple syrup.

Where a mild purge is wanted, this will answer the purpose very well. If a stronger dose is necessary, the jalap may be increased to half a drachm or upwards.

CATAPLASMS AND SINAPISMS.

CATAPLASMS possess few or no virtues superior to a poultice, which may be so made, as, in most cases, to supply their place. They are chiefly intended either to act as discutients, or to promote suppuration; and as they may be of service in some cases, we shall give a specimen of each kind.

Discutient Cataplasm.—Take of 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 Cataplasm.—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 along with the figs in a sufficient quantity of water; then bruise, and add to them the other ingredients, so as to form the whole into a soft cataplasm. The galbanum must be previously dissolved with the yolk of an egg.

Where it is necessary to promote suppuration, this cataplasm may be used by those who choose to be at the trouble and expense of making it. For my part, I have never found any application more proper for this purpose than a poultice of bread and milk, with a sufficient quantity of either boiled or raw onion in it, and softened with oil or fresh butter.

Sinapisms.—Sinapisms are employed to recall the blood and spirits to a weak 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 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 common sinapism is made by taking crumb of bread and mustard-seed in powder, of each equal quantities; strong vinegar, as much as is sufficient, and mixing them so as to make a poultice.

When sinapisms of a more stimulating nature are wanted, a little bruised garlic may be added to the above.

CLYSTERS.

THIS class of medicines is of more importance than is generally imagined. Clysters serve not only to evacuate the contents of the belly, but also to convey very active medicines into the system. Opium, for example, may be administered in this way, when it will not sit upon the stomach, and also in larger doses than at any time it can be taken by the mouth. The Peruvian bark may likewise be, with good effect, administered in form of clyster to persons who cannot take it by the mouth.

A simple clyster can seldom do hurt, and there are many cases where it may do much good. A clyster even of warm water, by serving as a fomentation to the parts, may be of considerable service in inflammations of the bladder and the lower intestines, &c.

Some substances, as the smoke of tobacco, may be thrown into the bowels in this way, which cannot be done by any other means whatever. This may be easily effected by means of a pair of hand-bellows, with an apparatus fitted to them for that purpose.

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.

Laxative Clyster.—Take of milk and water, each six ounces; sweet oil or fresh butter, and brown sugar, of each two ounces. Mix them.

If an ounce of Glauber's salt, or two table-spoonsful of common salt, be added to this, it will be the *Purging Clyster.*

Carminative Clyster.—Take of camomile flowers, an ounce; anise seeds, half an ounce. Boil in a pint and a half of water to one pint.

In hysteric and hypochondriac complaints, this may be administered instead of the *Fœtid Clyster*, the smell of which is so disagreeable to most patients.

Oily Clyster.—To four ounces of the infusion of camomile flowers, add an equal quantity of Florence oil.

This clyster is beneficial in bringing off the small worms lodged in the lower parts of the alimentary canal. When given to children, the quantity must be proportionably lessened.

Starch Clyster.—Take jelly of starch, four ounces; linseed oil, half an ounce. Liquefy the jelly over a gentle fire, and then mix in the oil.

In the dysentery, or bloody flux, this clyster may be administered after every loose stool, to heal the ulcerated intestines, and blunt the sharpness of corroding humours. Forty or fifty drops of laudanum may be occasionally added; in which case, it will generally supply the place of the *Astringent Clyster.*

Turpentine Clyster.—Take of common decoction, ten ounces; Venice turpentine, dissolved with the yolk of an egg, half an ounce; Florence oil one ounce. Mix them.

This diuretic clyster is proper in obstructions of the urinary passages, and in colicky complaints proceeding from gravel.

* 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 EYE-WATERS.

EYE-WATERS have been multiplied without number, almost every person pretending to be possessed of some secret preparation for the cure of sore eyes. I have examined many of them, and find that they are pretty much alike, the basis of most of them being either alum, vitriol, or lead.

Their effects evidently are to brace, and restore the tone of the parts: hence they are principally of service in slight inflammations; and in that relaxed state of the parts which is induced by obstinate ones.

Camphor is commonly added to these compositions; but as it seldom incorporates properly with the water, it can be of little use. Boles and other earthy substances, as they do not dissolve in water, are likewise unfit for this purpose.

Collyrium of Alum.—Take of alum half a drachm: agitate it well together with the white of one egg.

This is the Collyrium of Riverius. It is used in inflammation of the eyes, to allay heat, and restrain the flux of humours. It must be spread upon linen, and applied to the eyes; but should not be kept on above three or four hours at a time.

Vitriolic Collyrium.—Take of white vitriol, one scruple; rose-water, six ounces. Dissolve the vitriol in the water, and filter the liquor.

This, though simple, is perhaps equal in virtue to most of the celebrated collyria. It is an useful application in weak, watery, and inflamed eyes. Though the slighter inflammations will generally yield to it, yet in those of a more obstinate nature the assistance of bleeding and blistering will often be necessary.

When a strong astringent is judged proper, a double or triple quantity of the vitriol may be used. I have seen a solution of four times the strength of the above used with manifest advantage.

Collyrium of Lead.—Take sugar of lead, and crude sal ammoniac, of each four grains. Dissolve them in eight ounces of common water.

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 other addition, will in many cases answer very well as a collyrium. An ounce of the latter may be added to five or six ounces of the former; and the eyes, if weak, bathed with it night and morning.

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.

CONFECTIONS.

Confections, containing above sixty ingredients, are still to be found in some of the most reformed dispensatories. As most of their intentions, however, may be more certainly, and as effectually, answered by a few glasses of wine or grains of opium, we shall pass over this class of medicines very slightly.

Japonic Confection, or Electuary of Catechu.—Take of Japan earth, three ounces; tormentil root, nutmeg, olibanum, of each two ounces; opium dissolved in a sufficient quantity of Lisbon wine, a drachm and a half; simple syrup and conserve of roses, of each fourteen ounces. Mix, and make them into an electuary.

This supplies the place of the Diascordium.

The dose of this electuary is from a scruple to a drachm.

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 sweet-

meats than medicines. They are sometimes, however, of use for reducing into boluses or pills some of the more ponderous powders, as the preparations of iron, mercury, and tin.

Conserves are compositions of fresh vegetables and sugar, beaten together into an uniform mass. In making these preparations, the leaves of vegetables must be freed from their stalks, the flowers from their cups, and the yellow part of orange-peel taken off with a rasp. They are then to be pounded in a marble mortar, with a wooden pestle, into a smooth mass; after which, thrice their weight of fine sugar is commonly added by degrees, and the beating continued till they are uniformly mixed; but the conserve will be better if only twice its weight of sugar be added.

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 effects, however, it must be taken in larger quantities.

Preserves are made by steeping or boiling fresh vegetables, first in water, and afterwards in syrup, or a solution of sugar. The subject is either preserved moist in the syrup, or taken out and dried, that the sugar may candy upon it. The last is the most useful method.

Candied Orange Peel.—Soak Seville orange-peel in several waters, till it loses its bitterness; then boil it in a solution of double-refined sugar in water, till it becomes tender and transparent.

Candied lemon-peel is prepared in the same manner.

It is needless to add more of these preparations, as they belong rather to the art of the confectioner than 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 along with them. Hence watery decoctions and infusions of vegetables constitute a large, and not unuseful, class of medicines. Although most vegetables yield their virtues to water, as well by infusion as decoction, yet the latter is often necessary, as it saves time, and does in a few minutes what the other would require hours, and sometimes days, to effect.

The medicines of this class are all intended for immediate use.

Decoction of Althæa.—Take of the roots of marshmallows, moderately dried, three ounces; raisins of the sun, one ounce; water, three pints.

Boil the ingredients in the water till one third of it is consumed; afterwards strain the decoction, and let it stand for some time to settle. If the roots be thoroughly dried, they must be boiled till one half of the water be consumed.

In coughs, and sharp defluxions upon the lungs, this decoction may be used for ordinary drink.—This is sometimes termed *Pectoral Decoction.*

The Common Decoction.—Take of camomile flowers, one ounce; elder flowers, and sweet fennel seeds, of each half an ounce; water, two quarts. Boil them for a little while, and then strain the decoction.

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 wasted. Two or three ounces of simple cinnamon-water may be added to this decoction.

In fluxes of the belly, where the stronger astringents are improper, a tea-cupful of this decoction may be taken with advantage three or four times a day.

Decoction of the Bark.—Boil an ounce of the Peruvian bark, grossly powdered, in a pint and a half of water to one pint; then strain the decoction. If a tea-spoonful of the weak spirit of vitriol be added to this medicine, it will render it both more agreeable and efficacious.

Compound Decoction of the Bark.—Take of Peruvian bark, and Virginian snake-root, grossly powdered, each three drachms. Boil them in a pint of water to one half. To the strained liquor add an ounce and a half of 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 vigour to habits emaciated by the venereal disease. It may also be taken in the rheumatism, and cutaneous disorders proceeding from foulness of the blood and juices. For all these intentions it is greatly preferable to the *Decoction of Wood.*

This decoction may be taken from a pint and a half to two quarts in the day.

The following decoction is said to be similar to that used by *Kennedy*, in the cure of the venereal disease, and may supply the place of Lisbon diet drink:

Take of sarsaparilla, three ounces; liquorice and mezerion root, of each half an ounce; shavings of guaiacum and sassafras wood, of each one ounce; crude antimony, powdered, an ounce and a half. Infuse these ingredients in eight pints of boiling water for twenty-four hours, then boil them till one half of the water is consumed; afterwards strain the decoction.—This decoction may be used in the same manner as the preceding.

Decoction of Seneka.—Take of seneka 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 repeated, as purges, vomits, and a few others, which are to be taken at one dose. Where a medicine requires to be used for any length of time, it is better to make up a larger quantity of it at once, which saves both trouble and expense.

Anodyne Draught.—Take of liquid laudanum, twenty-five drops; simple cinnamon-water, an ounce; common syrup, two drachms. Mix them.

In excessive pain, where bleeding is not necessary, and in great restlessness, this composing draught may be taken, and repeated occasionally.

Diuretic Draught.—Take of the diuretic salt, two scruples; syrup of poppies, two drachms; simple cinnamon-water, and common water, of each an ounce.—This draught is of service in an obstruction or deficiency of urine.

[*Gentle Aperient Draught.*—Take of Epsom salts half an ounce, tincture of senna two drachms, water one ounce, mix. This will generally act gently on the bowels.—ED.]

Purging Draughts.—Take of manna, an ounce; soluble tartar, or Rochel salt, from three to four drachms. Dissolve in three ounces of boiling water; to which add cinnamon water, half an ounce.

As manna sometimes will not sit upon the stomach, an ounce or ten drachms of Epsom 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, two 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 chuse 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 earthern vessel, over a gentle fire, taking care to prevent the matter from burning by continually stirring it. The pulps of fruit that are both ripe and fresh may be pressed out without any previous boiling.

Lenitive Electuary.—Take of senna, in fine powder, eight ounces; coriander seed, also in powder, four ounces; pulp of tamarinds and of French prunes, each a pound. Mix the pulps and powders together, and, with a sufficient quantity of simple syrup, reduce the whole into an electuary.

A tea-spoonful of this electuary, taken two or three times a day, generally proves an agreeable laxative. It likewise serves as a convenient vehicle for exhibiting more active medicines, as jalap, scammony, and such like.

This may supply the place of the electuary of *Cassia.*

Electuary for the Dysentery.—Take of the Japonic confection, two ounces; Locatelli's balsam, one ounce; rhubarb in powder, half an ounce; syrup of marshmallows, enough to make an electuary.

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 the Gonorrhœa.—Take of lenitive electuary, three ounces; jalap and rhubarb, in powder, of each two drachms; nitre, half an ounce; simple syrup, enough to make an electuary.

During the inflammation and tension of the urinary passages, which accompany a virulent gonorrhœa, this cooling laxative may be used with advantage.

The dose is a drachm, or about the bulk of a nutmeg, two or three times a day; more or less, as may be necessary to keep the body gently open.

An electuary made of cream of tartar and simple syrup will occasionally supply the place of this.

Electuary of the Bark.—Take of Peruvian bark, in powder, three ounces; cascarilla, half an ounce; syrup of ginger, enough to make an electuary.

In the cure of obstinate intermitting fevers, the bark is assisted by the cascarilla. In hectic habits, however, it will be better to leave out the cascarilla, and put three drachms of crude sal ammoniac in its stead.

Electuary for the Piles.—Take flowers of sulphur, one ounce; cream of tartar, half an ounce; treacle, a sufficient quantity to form an electuary.

A tea-spoonful of this may be taken three or four times a day.

Electuary for the Rheumatism.—Take of conserve of roses, two ounces; cinnabar of antimony, levigated, an ounce and a half; gum guaiacum, in powder, an ounce; syrup of ginger, a sufficient quantity to make an electuary.

In obstinate rheumatisms, which are not accompanied with a fever, a tea-spoonful of this electuary may be taken twice a day with considerable advantage.

EMULSIONS.

Emulsions, beside their use as medicines, are also proper vehicles for certain substances, which could not otherwise be conveniently taken in a liquid form. Thus camphor, triturated with almonds, readily unites with water into an emulsion. Pure oils, balsams, and other similar substances, are likewise rendered miscible with water by the intervention of mucilages.

Common Emulsion.—Take of sweet almonds, an ounce; bitter almonds, a drachm; water, two pints.

Let the almonds be blanched, and beat up in a marble mortar, adding the water by little and little, so as to make an emulsion; afterwards let it be strained.

Arabic Emulsion.—This is made in the same manner as the above, adding to the almonds, while beating, two ounces and a half of the mucilage of gum arabic.

Where soft cooling liquors are necessary, these emulsions may be used as ordinary drink.

Camphorated Emulsion.—Take of camphor, half a drachm; sweet almonds, half a dozen; white sugar, half an ounce; mint water, eight ounces. Grind the camphor and almonds well together in a stone mortar, and add by degrees the mint water; then strain the liquor, and dissolve in it the sugar.

In fevers, and other disorders which require the use of camphor, a table-spoonful of this emulsion may be taken every two or three hours.

Emulsion of Gum Ammoniac.—Take of gum ammoniac, two drachms; water, eight ounces. Grind the gum with the water poured upon it by little and little, till it is dissolved.

This emulsion is used for attenuating tough viscid phlegm, and promoting expectoration. In obstinate coughs, two ounces of the syrup of poppies may be added to it. The dose is two table-spoonsful three or four times a day.

EXTRACTS.

Extracts are prepared by boiling the subject in water, and evaporating the strained decoction to a due consistence. By this process some of the more active parts of plants are freed from the useless, indissoluble earthy matter, which makes the larger share of their bulk. Water, however, is not the only menstruum used in the preparation of extracts; sometimes it is joined with spirits, and at other times rectified spirit alone is employed for that purpose.

Extracts are prepared from a variety of different drugs, as the bark, gentian, jalap, &c.; but, as they require a troublesome and tedious operation, it will be more convenient for a private practitioner to purchase what he needs of them from a professed druggist, than to prepare them himself. Such of them as are generally used are inserted in our list of such drugs and medicines as are to be kept for private practice.

FOMENTATIONS.

FOMENTATIONS are generally intended either to ease pain, by taking off tension and spasm; or to brace and restore the tone and vigour of those parts to which they are applied. The first of these intentions may generally be answered by warm water, and the second by cold. Certain substances, however, are usually added to water, with a view to heighten its effects, as anodynes, aromatics, astringents, &c. We shall therefore subjoin a few of the most useful medicated fomentations, that people may have it in their power to make use of them as they choose.

Anodyne Fomentation.—Take of white poppy-heads, two ounces; elder flowers, half an ounce; water, three pints. Boil till one pint is evaporated, and strain out the liquor.

This fomentation, as its title expresses, is used for relieving acute pain.

Common Fomentation.—Take tops of wormwood and camomile flowers, dried, of each two ounces; water, two quarts. After a slight boiling, pour off the liquor.

Brandy or spirit of wine may be added 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 any where; and if to these be added as much vinegar as will give them an agreeable sharpness, they will make a very useful gargle for softening and cleansing the mouth.

Gargles have the best effect when injected with a syringe.

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.

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.

Bitter Infusion.—Take tops of the lesser centaury and camomile flowers, of each half an ounce; yellow rind of lemon and orange peel, carefully freed from the inner white part, of each two drachms. Cut them in small pieces, and infuse them in a quart of boiling water.

For indigestion, weakness of the stomach, or want of appetite, a tea-cupful of this infusion may be taken twice or thrice a day.

Infusion of the Bark.—To an ounce of the bark, in powder, add four or five table-spoonsful of brandy, and a pint of boiling water. Let them infuse for two or three days.

This is one of the best preparations of the bark for weak stomachs. In disorders where the corroborating virtues of that medicine are required, a tea-cupful of it may be taken two or three times a day.

Infusion of Carduus.—Infuse an ounce of the dried leaves of carduus benedictus, or blessed thistle, in a pint of common water, for six hours, without heat; then filter the liquor through paper.

This light infusion may be given, with great benefit, in weakness of the stomach, where the common bitters do not agree. It may be flavoured at pleasure with cinnamon, or other aromatic materials.

Infusion of Linseed.—Take of linseed, two spoonsful; liquorice root, sliced, half an ounce; boiling water, three pints. Let them stand to infuse by the fire for some hours, and then strain off the liquor.

If an ounce of the leaves of colt's-foot be added to these ingredients, it will then be the *Pectoral Infusion*. Both these are emollient mucilaginous liquors, and may be taken with advantage, as ordinary drink, in difficulty of making water; and in coughs and other complaints of the breast. See *Decoction of Althea*.

Infusion of Roses.—Take of red roses, dried, half an ounce; boiling water, a quart; vitriolic acid, commonly called oil of vitriol, half a drachm; loaf sugar, an ounce.

Infuse the roses in the water for four hours, in an unglazed earthen vessel; afterwards pour in the acid, and, having strained the liquor, add to it the sugar.

In an excessive flow of the *menses*, vomiting of blood, and other hæmorrhages, a tea-cupful of this gently astringent infusion may be taken every three or four hours. It likewise makes an exceedingly good gargle.

As the quantity of roses used here can have little or no effect, an equally valuable medicine may be prepared by mixing the acid and water without infusion.

Infusion of Tamarinds and Senna.—Take of tamarinds, one ounce; senna, and crystals of tartar, each two drachms. Let these ingredients be infused four or five hours in a pint of boiling water; afterwards let the liquor be strained, and an ounce or two of the aromatic tincture added to it. Persons who are easily purged may leave out either the tamarinds or the crystals of tartar.

This is an agreeable cooling purge. A tea-cupful may be given every half hour till it operates.

Spanish Infusion.—Take of Spanish juice, cut into small pieces, an ounce; salt of tartar, three drachms. Infuse in a quart of boiling water

for a night. To the strained liquor add an ounce and a half of the syrup of poppies.

In recent colds, coughs, and obstructions of the breast, a tea-cupful of this infusion may be taken with advantage three or four times a day.

Infusion for the Palsy.—Take of horse-radish root shaved, mustard-seed bruised, each four ounces; outer rind of orange-peel, one ounce. Infuse them in two quarts of boiling water, in a close vessel, for twenty-four hours.

In paralytic complaints, a tea-cupful of this warm stimulating medicine may be taken three or four times a day. It excites the action of the solids, proves diuretic, and, if the patient be kept warm, promotes perspiration.

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 spoonsful three or four times a day, in disorders accompanied with great weakness and depression of spirits.

Expectorating Julep.—Take of the emulsion of gum ammoniac, six ounces; syrup of squills, two ounces. Mix them.

In coughs, asthmas, and obstructions of the breast, two table-spoonsful of this julep may be taken every three or four hours.

Musk Julep.—Rub half a drachm of musk well together with half an ounce of sugar, and add to it, gradually, of simple cinnamon and peppermint-water, each two ounces; of the volatile aromatic spirit, two drachms.

In the low state of nervous fevers, hiccuping, convulsions, and other spasmodic affections, two table-spoonsful of this julep may be taken every two or three hours.

Saline Julep.—Dissolve two drachms of salt of tartar in three ounces of fresh lemon juice, strained; when the effervescence is over, add, of mint-water, and common water, each two ounces; of simple syrup, one ounce.

This removes sickness of the stomach, relieves vomiting, promotes perspiration, and may be of some service in fevers, especially of the inflammatory kind.

Vomiting Julep.—Dissolve four grains of emetic tartar in eight ounces of water, and add to it half an ounce of the syrup of clove July-flowers.

In the beginning of fevers, where there is no topical inflammation, this julep may be given in the dose of one table-spoonful every quarter of an hour till it operates. Antimonial vomits serve not only to evacuate the contents of the stomach, but likewise to promote the different excretions. Hence they are found in fevers to have nearly the same effect as *Dr. James's Powder.*

MIXTURES.

A MIXTURE differs from a julep in this respect, that it receives into its composition not only salts, extracts, and other substances dissoluble in water, but also earths, powders, and such substances as cannot be dissolved. A mixture is seldom either an elegant or agreeable medicine. It is nevertheless necessary. Many persons can take a mixture, who are not able to swallow a bolus or an electuary: besides, there are medicines which act better in this than in any other form.

Astringent Mixture.—Take simple cinnamon-water, and common water, of each three ounces; spirituous cinnamon-water, an ounce and a half; Japonic confection, half an ounce. Mix them.

In dysenteries which are not of long standing, after the necessary evacuations, a spoonful or two of this mixture may be taken every four hours, interposing every second or third day a dose of rhubarb.

The Astringent Mixture, which I have lately made use of with great success, is prepared thus:

Take powder of bole with opium, two drachms; cinnamon-water and penny-royal water, of each three ounces; spirituous cinnamon-water, six drachms; simple syrup, one ounce. Mix them, and take a table-spoonful four or five times a day.

[*Compound Mixture of Iron.*—Take of myrrh in powder, one drachm; subcarbonate of potass, twenty-five grains; rose-water, seven ounces and a half; sulphate of iron, in powder, one scruple; spirit of nutmeg, half a fluid ounce; refined sugar, a drachm. Rub down the two first ingredients and the sugar together; and during the trituration, add first the rose-water and spirit of nutmeg, and lastly the sulphate of iron. Immediately put the mixture into a proper glass bottle, and keep it well corked. This is called Dr. Griffiths' tonic myrrh mixture, and is highly celebrated in consumptions, green sickness, and other cases of debility, in doses of three large spoonsful two or three times a day.—ED.]

Diuretic Mixture.—Take of mint-water, five ounces; vinegar of squills, six drachms; sweet spirit of nitre, half an ounce; syrup of ginger, an ounce and a half. Mix them.

In obstructions of the urinary passages, two spoonsful of this mixture may be taken twice or thrice a day.

Laxative Absorbent Mixture.—Rub one drachm of magnesia alba in a mortar with ten or twelve grains of the best Turkey rhubarb, and add to them three ounces of common water; simple cinnamon water, and syrup of sugar, of each one ounce.

As most diseases of infants are accompanied with acidities, this mixture may either be given with a view to correct these, or to open the body. A table-spoonful may be taken for a dose, and repeated three times a day. To a very young child half a spoonful will be sufficient.

When the mixture is intended to purge, the dose may either be increased, or the quantity of rhubarb doubled.

This is one of the most generally useful medicines for children with which I am acquainted.

[*Purging Mixture.*—Half a pint or a pint of this mixture may be made by augmenting the quantity of ingredients ordered for *purging draughts.*—ED.]

Saline Mixture.—Dissolve a drachm of the salt of tartar in four ounces of boiling water; and, when cold, drop into it spirit of vitriol till the effervescence ceases; then add, of peppermint-water, two ounces, simple syrup, one ounce.

Where fresh lemons cannot be had, this mixture may occasionally supply the place of the saline julep.

Squill Mixture.—Take of simple cinnamon water, five ounces; vinegar of squills, one ounce; syrup of marshmallows, an ounce and a half. Mix them.

This mixture, by promoting expectoration, and the secretion of urine, proves serviceable in asthmatic and dropsical habits. A table-spoonful of it may be taken frequently.

OINTMENTS, LINIMENTS, AND CERATES.

NOTWITHSTANDING the extravagant encomiums which have been bestowed on different preparations of this kind, with regard to their efficacy in the cure of wounds, sores, &c. it is beyond a doubt, that the most proper application to a green wound is dry lint. But though ointments do not heal wounds and sores, yet they serve to defend them from the external air, and to retain such substances as may be necessary for drying, deterging, destroying proud flesh, and such like. For these purposes, however, it will be sufficient to insert only a few of the most simple forms, as ingredients of a more active nature can occasionally be added to them.

Yellow Basilicum Ointment.—Take of yellow wax, white resin, and frankincense, each a quarter of a pound; melt them together over a gentle fire; then add, of hogs' lard prepared, one pound. Strain the ointment while warm.

This ointment is employed for cleansing and healing wounds and ulcers.

Ointment of prepared 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 exceeding good application in burns and excoriations, from whatever cause.

Eye Ointment.—Take of hogs' 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; hogs' 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 trituration till they be perfectly united.

This ointment has been long in esteem for diseases of the eyes. It ought, however, to be used with caution, when the eyes are much inflamed or very tender.

Issue Ointment.—Mix half an ounce of Spanish flies, finely powdered, in six ounces of yellow basilicum ointment.

This ointment is chiefly intended for dressing blisters, in order to keep them open during pleasure.

Ointment of Lead.—Take of olive oil, half a pint; white wax, two ounces; sugar of lead, three drachms. Let the sugar of lead, reduced into a fine powder, be rubbed up with some part of the oil, and afterwards added to the other ingredients, previously melted together, continually stirring them till quite cold.

This cooling and gently astringent ointment may be used in all cases where the intention is to dry and skin over the part, as in scalding, &c.

Mercurial Ointment.—Take of quicksilver, two ounces; hogs' 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 are perfectly extinguished; then rub it up with the rest of the lard and suet, previously melted together.

The principal intention of this ointment is to convey mercury into the body by being rubbed upon the skin.

Ointment of Sulphur.—Take of hogs' 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 upon the parts affected, will generally cure the itch. It is both the safest and best application for that purpose, and, when made in this way, has no disagreeable smell.

White Ointment.—Take of olive oil, one pint; white wax and spermaceti, of each three ounces. Melt them with a gentle heat, and keep them constantly and briskly stirring together, till quite cold.

If two drachms of camphor, previously rubbed with a small quantity of oil, be added to the above, it will make the *White Camphorated Ointment.*

Liniment for Burns.—Take equal parts of Florence oil, or of fresh-drawn linseed oil, and lime water; shake them well together in a wide-mouthed bottle, so as to form a liniment.

This is found to be an exceeding proper application for recent scalds or burns. It may either be spread upon a cloth, or the parts affected may be anointed with it twice or thrice a day.

Liniment of Tartarized Antimony.—Take of tartarized antimony one drachm; camphor half a drachm; hogs' lard one ounce; powder the two former ingredients *very fine*, then add the lard. This liniment may be made much stronger by increasing the tartarized antimony. It is applied over the chest to relieve a cough and difficulty of breathing. It is also applied to the back and arms in cases of headache, fits, palsy, and other affections which are of a chronic nature.

If the above quantity is rubbed in during three or four days, it will produce a large crop of pustules. The process is painful; but it will in many instances yield astonishing relief if duly repeated and persevered in.—Ed.]

Liniment for the Piles.—Take of emollient ointment, two ounces; liquid laudanum, half an ounce. Mix these ingredients with the yolk of an egg, and work them well together.

Volatile Liniment.—Take of Florence oil, an ounce; spirit of hartshorn, half an ounce. Shake them together.

This liniment, made with equal parts of the spirit and oil, will be more efficacious, where the patient's skin is able to bear it.

Sir John Pringle observes, that in the inflammatory 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 Florence oil, in a mortar, till the camphor is entirely dissolved.

This antispasmodic liniment may be used in obstinate rheumatisms, 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 five grains of the compound, in mentioning the dose we shall only specify the number of pills to be taken: as one, two, three, &c.

Composing Pill.—Take of purified opium, ten grains; Castile soap, half a drachm. Beat them together, and form the whole into twenty pills.

When a quieting draught will not sit upon the stomach, one, two, or three of these pills may be taken, as occasion requires.

Deobstruent Pill.—Take salt of steel; succotrine aloes; myrrh in powder; of each a drachm. Make into forty pills, of which two are to be taken evening and morning.

I have found these pills of excellent service in obstructions of the menses.

Fœtid Pill.—Take of asafœtida, half an ounce; simple syrup, as much as is necessary to form it into pills.

In hysteric complaints, four or five pills, of an ordinary size, may be taken twice or thrice a day. They may likewise be of service to persons afflicted with the asthma.

When it is necessary to keep the body open, a proper quantity of rhubarb, aloes, or jalap, may occasionally be added to the above mass.

Hemlock Pill.—Take any quantity of the extract of hemlock, and adding to it about a fifth part its weight of the powder of the dried leaves, form it into pills of the ordinary size.

The extract of hemlock may be taken from one grain to several drachms in the day. The best method, however, of using these pills, is to begin with one or two, and to increase the dose gradually, as far as the patient can bear them, without any remarkable degree of stupor or giddiness.

Mercurial Pill, or Blue 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; [A medicine of great utility in liver complaints and indigestion in doses of ten or fifteen grains at bed-time twice a week, succeeded, occasionally with a little Epsom salts in the morning.—ED.]

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 mass 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.

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 succotrine aloes, and Castile soap, each two drachms; of simple syrup, a sufficient quantity to make them into pills.

Four or five of these pills will generally prove a sufficient purge. For keeping the body gently open, one may be taken night and morning. They are reckoned both deobstruent and stomachic, and will be found to answer all the purposes of Dr. Anderson's pills, the principal ingredient of which is aloes.

Where aloetic purges are improper, the following pills may be used:

Take extract of jalap, and vitriolated tartar, of each two drachms; syrup of ginger, as much as will make them of a proper consistence for pills.

These pills may be taken in the same quantity as the above

Pill for the Jaundice.—Take of Castile soap, succotrine aloes, and rhubarb, of each one drachm. Make them into pills, with a sufficient quantity of syrup or mucilage.

These pills, as their title expresses, are chiefly intended for the jaundice, which, with the assistance of proper diet, they will often cure. Five or six of them may be taken twice a day, more or less, as is necessary to keep the body open. It will be proper, however, during their use, to interpose now and then a vomit of ipecacuanha or tartar emetic.

Stomachic Pill.—Take extract of gentian, two drachms; powdered rhubarb and vitriolated tartar, of each one drachm; oil of mint, thirty drops; simple syrup, a sufficient quantity.

Three or four of these pills may be taken twice a day, for invigorating the stomach, and keeping the body gently open.

Squill Pills.—Take powder of dried squills, a drachm and a half; gum ammoniac, and cardamom seeds, in powder, of each three drachms; simple syrup, a sufficient quantity.

In dropsical and asthmatic complaints, two or three of these pills may be taken twice a day, or oftener if the stomach will bear them.

Strengthening Pill.—Take soft extract of the bark, and salt of steel, each a drachm. Make into pills.

In disorders arising from excessive debility, or relaxation of the solids, as the chlorosis, or green sickness, two of these pills may be taken three times a day.

PLASTERS.

PLASTERS ought to be of a different consistence, according to the purposes for which they are intended. Such as are to be applied to the breasts or stomach, ought to be soft and yielding; while those designed for the limbs should be firm and adhesive.

The oxides of lead boiled with oils unite with them into a plaster of a proper consistence, which make the basis of several other plasters. In boiling these compositions, a quantity of hot water must be added from time to time, to prevent the plaster from burning or growing black. This, however, should be done with care, lest it cause the matter to explode.

Common Plaster.—Take of common olive oil, six pints; litharge, reduced to a fine powder, two pounds and a half. Boil the litharge and oil together over a gentle fire, continually stirring them, and keeping always about half a gallon of water in the vessel: after they have boiled about three hours, a little of the plaster may be taken out and put into cold water, to try if it be of a proper consistence: when that is the case, the whole may be suffered to cool, and the water well pressed out of it with the hands.

This plaster is generally applied in slight wounds and excoriations of the skin. It keeps the part soft and warm, and defends it from the air, which is all that is necessary in such cases. Its principal use, however, is to serve as a basis for other plasters.

Adhesive Plaster.—Take of common plaster, half a pound; of Burgundy pitch, a quarter of a pound. Melt them together.

This plaster is principally used for keeping on other dressings.

Anodyne Plaster.—Melt an ounce of adhesive plaster, and, when it is cooling, mix with it a drachm of powdered opium, and the same quantity of camphor, previously rubbed up with a little oil.

This plaster generally gives ease in acute pains, especially of the nervous kind.

Blistering Plaster.—Take of Venice turpentine, six ounces; yellow wax, two ounces; Spanish flies in fine powder, three ounces; powdered mustard, one ounce. Melt the wax, and while it is warm, add to it the turpentine, taking care not to evaporate it by too much heat. After the turpentine and wax are sufficiently incorporated, sprinkle in the 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.

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 violent 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 upon soft leather, and applied to the region of the stomach, will be of service arising in flatulencies

from hysteric and hypochondriac affections. A little of the expressed oil of mace, or a few drops of the essential oil of mint, may be rubbed upon it before it is applied.

This may supply the place of the *Antihysteric 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.

POULTICES.

THROUGH some oversight, this article was omitted in the earlier editions, though it relates to a class of medicines by no means unimportant. Poultices are often beneficial, even in the most simple form; but more so, when employed to retain more active medicines,—to keep them in contact with the skin,—and to fit it for their absorption. Every nurse knows how to make a poultice.

A poor woman who had received a very dangerous wound in the tendons of her thumb from a rusty nail, called upon me some little time since. As her case properly belonged to the department of surgery, I advised her to apply at the hospital; but the official hirelings there refused to take her in, though I always understood that they were obliged to take in accidents. It seems, however, that some very confined meaning was annexed to this word by the surgeon on duty, and that he did not think the danger of a locked jaw to be an accident as deserving of his pity and immediate assistance, as a broken arm, or dislocated ancle.

The poor woman came back to me; and, as her situation became every moment more and more alarming, the pain and inflammation having reached as high as the arm-pit, I advised her to apply to the whole hand and arm a large poultice, with an ounce of laudanum sprinkled over it, and to renew the poultice twice a day. This she did with so much success, that the thumb is now quite well, though the accident did not happen above three weeks ago.

Alarming as the case was, I had some reason to rely on the efficacy of the poultice, from a former trial somewhat similar. One of those girls, who are employed by bookbinders in stitching the sheets, having wounded her finger with the three-edged needle used on such occasions, soon felt the pain shoot upwards with deadly tendency. I ordered her to apply the same sort of poultice with laudanum, which had the same happy effect.

Both these patients made use of the common poultice; but I prefer one made of linseed flour, which is more easily prepared, and keeps moist longer than any other.

POWDERS.

THIS is one of the most simple forms in which medicine can be administered. Many medicinal substances, however, cannot be reduced into powder, and others are too disagreeable to be taken in this form.

The lighter powders may be mixed in any agreeable thin liquor, as tea or water-gruel. The more ponderous will require a more consistent vehicle, as syrup, conserve, jelly, or honey.

Gums, and other substances, which are difficult to powder, should be pounded along with the drier ones; but those which are too dry, especially aromatics, ought to be sprinkled during their pulverization with a few drops of any proper water.

Aromatic powders are to be prepared only in small quantities at a time, and kept in glass vessels closely stopped. Indeed, no powders

ought to be exposed to the air, or kept too long, otherwise their virtues will be in 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 hæmorrhages, one of these powders may be taken every hour, or every half hour, if the discharge be violent.

Powder of Bole.—Take of Bole armenic, or French bole, two ounces; cinnamon, one ounce; tormentil root and gum arabic, of each six drachms; long pepper, one drachm. Let all these ingredients be reduced into a powder.

This warm, glutinous, astringent powder, is given in fluxes, and other disorders where medicines of that class are necessary, in the dose of a scruple, or half a drachm.

If a drachm of opium be added, it will make the Powder of Bole with Opium, which is a medicine of considerable efficacy. It may be taken in the same quantity as the former, but not above twice or thrice a day.

Carminative Powder.—Take of coriander seed, half an ounce; ginger, one drachm; nutmegs, half a drachm; fine sugar, a drachm and a half. Reduce them into powder for twelve doses.

This powder is employed for expelling flatulencies arising from indigestion, particularly those to which hysteric and hypochondriac persons are so liable. It may likewise be given in small quantities to children in their food, when troubled with gripes.

Diuretic Powder.—Take of gum arabic four ounces; purified nitre, one ounce. Pound them together, and divide the whole into twenty-four doses.

During the first stage of the venereal disease, one of these cooling powders may be taken three times a day, with considerable advantage.

Aromatic Opening Powder.—Take of the best Turkey rhubarb, cinnamon, and fine sugar, each two drachms. Let the ingredients be pounded, and afterwards mixed well together.

When flatulency is accompanied with costiveness, a tea-spoonful of this powder may be taken once or twice a day, according to circumstances.

Saline Laxative Powder.—Take of soluble tartar, and cream of tartar, each one drachm; purified nitre, half a drachm. Make them into a powder.

In fevers, and other inflammatory disorders, where it is necessary to keep the body gently open, one of these cooling laxative powders may be taken in a little gruel, and repeated occasionally.

[*Seidlitz Powders.*—This medicine may be had at the druggist's, with directions for its administration. It is frequently highly beneficial in fever, when given to allay heat and to open the bowels. It will also check sickness at the stomach, and subdue irritability of that organ after other means have failed. On some occasions we would recommend half the usual quantity for a dose, especially where the bowels are easily moved.—Ed.]

Steel Powder.—Take filings of steel, and loaf-sugar, of each two ounces; ginger, two drachms. Pound them together.

In obstructions of the menses, and other cases where steel is proper, a tea-spoonful of this powder may be taken twice a day, and washed down with a little wine or 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 Powders.—Take of tin reduced into a fine powder, an ounce; Æthiop'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 of 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 proved an egregious anthelmintic. He purged his patients both before they took the powder and afterwards.

Powder for the Tape Worm.—Early in the morning the patient is to take in any liquid two or three drachms, according to his age and constitution, of the root of the male fern reduced into a fine powder. About two hours afterwards, he is to take of calomel and resin of scammony, each ten grains; gum gamboge, six grains. These ingredients must be finely powdered, and given in a little syrup, honey, treacle, or any thing that is most agreeable to the patient. He is then to walk gently about, now and then drinking a dish of weak green tea, till the worm is passed. If the powder of the fern produces nausea, or sickness, it may be removed by sucking the juice of an orange or lemon.

This seems, from its ingredients, to be an active medicine, and ought to be taken with care. The dose here prescribed is sufficient for the strongest patient; it must, therefore, be reduced according to the age and constitution.

SYRUPS.

Syrups were some time ago looked upon as medicines of considerable value. They are at present, however, regarded chiefly as vehicles for medicines of greater efficacy, and are used for sweetening draughts, juleps, or mixtures; and for reducing the lighter powders into boluses, pills, and electuaries. As all these purposes may be answered by the simple syrup alone, there is little occasion for any other; especially as they are seldom found but in a state of fermentation; and as the dose of any medicine given in this form is very uncertain. Persons who serve the public must keep whatever their customers call for; but, to the private practitioner, nine-tenths of the syrups usually kept in the shops are unnecessary.

Simple Syrup—Is made by dissolving in water, either with or without heat, about double its weight of fine sugar.

If twenty-five drops of laudanum be added to an ounce of the simple syrup, it will supply the place of diacodium, or the syrup of poppies, and will be found a more safe and certain medicine.

The lubricating virtues of the syrup of marshmallows may likewise be supplied, by adding to the common syrup a sufficient quantity of mucilage of gum arabic.

Those who choose to preserve the juice of lemons in form of syrup, may dissolve in it, by the heat of a warm bath, nearly double its weight of fine sugar. The juice ought to be previously strained, and suffered to stand till it settles.

The syrup of ginger is sometimes of use as a warm vehicle for giving medicine to persons afflicted with flatulency. It may be made by infusing two ounces of bruised ginger in two pints of boiling water for twenty-four hours. After the liquor has been strained, and has stood to settle for some time, it may be poured off, and a little more than double its weight of fine powdered sugar dissolved in it.

TINCTURES, ELIXIRS, &c.

RECTIFIED spirit is the direct menstruum of the resins and essential oils of vegetables, and totally extracts these active principles from sundry substances, which yield them to water, either not at all, or only in part.

It dissolves likewise those parts of animal substances in which their peculiar smells and tastes reside. Hence the tinctures prepared with rectified spirit form an useful and elegant class of medicines, possessing many of the most essential virtues of simples, without being clogged with their inert or useless parts.

Water, however, being the proper menstruum of the gummy, saline, and saccharine parts of medicinal substances, it will be necessary, in the preparation of several tinctures, to make use of a weak spirit or a composition of rectified spirit and water.

Aromatic Tincture.—Infuse two ounces of Jamaica pepper in two pints of brandy, without heat, for a few days; then strain off the tincture.

This simple tincture will sufficiently answer all the intentions of the more costly preparations of this kind. It is rather too hot to be taken by itself; but is very proper for mixing with such medicines as might otherwise prove too cold for the stomach.

Compound Tincture of the Bark.—Take of Peruvian bark, two ounces; Seville orange-peel and cinnamon, of each half an ounce. Let the bark be powdered, and the other ingredients bruised: then infuse the whole in a pint and a half of brandy for five or six days, in a close vessel; afterwards strain off the tincture.

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 Fœtid Tincture.—Infuse two ounces of asafœtida in one pint of volatile aromatic spirit, for eight days, in a close bottle, frequently shaking it; then strain the tincture.

This medicine is beneficial in hysteric disorders, especially when attended with lowness of spirits, and faintings. A tea-spoonful of it may be taken in a glass of wine, or a cup of 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 tea-spoonful of this tincture may be taken in a cup of the infusion of water trefoil, twice or thrice a day.

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* A very good tincture of guaiacum, for domestic use, may be made by infusing two or three ounces of the gum in a bottle of rum or brandy.

Tincture of Black Hellebore.—Infuse two ounces of the roots of black hellebore, bruised, in a pint of proof spirit, for seven or eight days; then filter the tincture through paper. A scruple of cochineal may be infused along with the roots, to give the tincture a colour.

In obstructions of the menses, a tea-spoonful of this tincture may be taken in a cup of camomile or 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.

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 Liquid Laudanum.—Take of crude opium, two ounces; spirituous aromatic water, and mountain wine, of each ten ounces. Dissolve the opium, sliced, in the wine, with a gentle heat, frequently stirring it; afterwards add the spirit, and strain off the tincture.

As twenty-five drops of this tincture contain about a grain of opium, the common dose may be from twenty to thirty drops.

Tincture of Muriate of Iron.—It is not easy to prepare this tincture. It may be had at all respectable druggists, and may be given in doses of twenty or thirty drops in cold water, or any proper vehicle, morning and evening, in those affections for which iron or steel is recommended.

It is a much better medicine than chalybeate or steel wine.—Ed.]

Sacred Tincture, or Tincture of Hiera Picra.—Take of succotrine 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 French brandy for a week; then strain the tincture, and add to it four ounces of fine sugar.

This is an agreeable purge, and answers all the purposes of the Elixir Salutis, and of Daffy's Elixir.

The dose is from one to two or three ounces.

Tincture of Spanish Flies.—Take of Spanish flies, reduced to a fine powder, two ounces; spirit of wine, one pint. Infuse for two or three days; then strain off the tincture.

This is intended as an acrid stimulant for external use. Parts affected with the palsy or chronic rheumatism may be frequently rubbed with it.

Tincture of the Balsam of Tolu.—Take of the balsam of Tolu, an ounce and a half; rectified spirit of wine, a pint. Infuse in a gentle heat until the balsam is dissolved; then strain the tincture.

This tincture possesses all the virtues of the balsam. In coughs, and other complaints of the lungs, a tea-spoonful or two of it may be taken in 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 snakeroot 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, cholicky and such like complaints, they are frequently of great service. The dose is from half a spoonful to three or four spoonsful or more, according to the circumstances of the patient, and the purposes it is intended to answer.

Paregoric Elixir.—Take of flowers of benzoin, half an ounce; opium, two drachms. Infuse in one pound of the volatile aromatic spirit, for four or five days, frequently shaking the bottle; afterwards strain the elixir.

This is an agreeable and safe way of administering opium. It eases pain, allays tickling coughs, relieves difficult breathing, and is useful in many disorders of children, particularly the hooping cough.

The dose to an adult is from fifty to a hundred drops.

Sacred Elixir.—Take of rhubarb cut small, ten drachms; succotrine aloes, in powder, six drachms; lesser cardamom seeds, half an ounce; French brandy, two pints. Infuse for two or three days, and then strain the elixir.

This useful stomachic purge may be taken from one ounce to an ounce and a half.

Stomachic Elixir.—Take of gentian root, two ounces; Curassao oranges, one ounce; Virginian snakeroot, half an ounce. Let the ingredients be bruised, and infused for three or four days in two pints of French brandy; afterwards strain out the elixir.

This is an excellent stomach bitter. In flatulencies, indigestion, want of appetite, and such like complaints, a small glass of it may be taken twice a day. It likewise relieves the gout in the stomach, when taken in a large dose.

Acid Elixir of Vitriol.—Take of the aromatic tincture, one pint; oil of vitriol, three ounces. Mix them gradually, and after the fæces have subsided, filter the elixir through paper, in a glass funnel.

This is one of the best medicines which I know for hysteric and hypochondriac patients, afflicted with flatulencies arising from relaxation or debility of the stomach and intestines. It will succeed where the most celebrated stomachic bitters have no effect. The dose is from ten to forty drops, in a glass of wine or water, or a cup of any bitter infusion, twice or thrice a day. It should be taken when the stomach is most empty.

Camphorated Spirit of Wine.—Dissolve an ounce of camphor in a pint of rectified 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, or Solution of Acetate of Ammonia.—Take of volatile sal ammoniac, any quantity. Pour on it gradually distilled vinegar, till the effervescence ceases.

This medicine is useful in promoting a discharge both by the skin and urinary passage. It is also a good external application in strains and bruises.

When intended to raise a sweat, half an ounce of it in a cup of warm gruel may be given to the patient in bed every hour till it has the desired effect.

VINEGARS.

VINEGAR is an acid produced from vinous liquors by a second fermentation. It is an useful medicine both in inflammatory and putrid disorders. Its effects are, to cool the blood, quench thirst, counteract a tendency to putrefaction, and allay inordinate motions of the system. It likewise promotes the natural secretions, and in some cases excites a copious sweat, where the warm medicines, called alexipharmic, tend rather to prevent that salutary evacuation.

Weakness, faintings, vomitings, and other hysteric affections, are often relieved by vinegar applied to the mouth and nose, or received into the stomach. It is of excellent use also in correcting many poisonous substances, when taken into the stomach; and in promoting their expulsion, by the different emunctories, when received into the blood.

Vinegar is not only an useful medicine, but serves likewise to extract, in tolerable perfection, the virtues of several other medicinal substances. Most of the odoriferous flowers impart to it their fragrance, together with a beautiful purplish or red colour. It also assists or coincides with the intention of squills, garlic, gum ammoniac, and several other valuable medicines.

These effects, however, are not to be expected from every thing that is sold under the name of vinegar, but from such as is sound and well prepared.

The best vinegars are those prepared from French wines.

It is necessary for some purposes that the vinegar be distilled; but as this operation requires a particular chemical apparatus, we shall not insert it.

Vinegar of Litharge.—Take of litharge, half a pound; strong vinegar, two pints. Infuse them together in a moderate heat for three days, frequently shaking the vessel; then filter the liquor for use.

This medicine is little used, from a general notion of its being dangerous. There is reason, however, to believe, that the preparations of lead with vinegar are possessed of some valuable properties, and that they may be used in many cases with safety and success.

A preparation of a similar nature with the above has of late been extolled by Goulard, a French surgeon, as a safe and extensively useful medicine, which he calls the Extract of Saturn, and orders to be made in the following manner:

Take of litharge, one pound; vinegar made of French wine, two pints. Put them together into a glazed earthen pipkin, and let them boil, or rather simmer, for an hour, or an hour and a quarter, taking care to stir them all the while with a wooden spatula. After the whole has stood to settle, pour off the liquor which is upon the top into bottles for use.

With this extract Goulard makes his *vegeto-mineral water*,* which he recommends in a great variety of external disorders, as inflammations, burns, bruises, sprains, ulcers, &c.

He likewise prepares with it a number of other forms of medicine, as *poultices* plasters, ointments, powders, &c.

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* See *Collyrium of Lead.*

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 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 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, ETC.

Lime water.—Pour two gallons of water gradually upon a pound of fresh burnt quicklime; and when the ebullition ceases, stir them well together; then suffer the whole to stand at rest, that the lime may settle, and afterwards filter the liquor through paper, which is to be kept in vessels closely stopped.

The lime-water from calcined oyster-shells, is prepared in the same manner.

Lime-water is principally used for the gravel; in which case, from a pint or two or more of it may be drank daily. Externally it is used for washing foul ulcers, and removing the itch, and other diseases of the skin.

Compound Lime-water.—Take shavings of guaiacum wood, half a pound; liquorice root, one ounce; sassafras bark, half an ounce; coriander seeds, three drachms; simple lime-water, six pints.

Infuse without heat for two days, and then strain off the liquor.

In the same manner may lime-water be impregnated with the virtues of the other vegetable substances. Such impregnation not only renders the water more agreeable to the palate, but also a more efficacious medicine, especially in cutaneous disorders, and foulness of the blood and juices.

It may be taken in the same quantity as the simple water.

Sublimate Water.—Dissolve eight grains of the corrosive sublimate in a pint of cinnamon water.

If a stronger solution be wanted, a double or triple quantity of sublimate may be used.

The principal intention of this is to cleanse foul ulcers, and consume proud flesh.

Styptic Water.—Take of blue vitriol and alum, each an ounce and a half; water, one pint. Boil them until the salts are dissolved, then filter the liquor, and add to it a drachm of the oil of vitriol.

This water is used for stopping a bleeding at the nose, and other hæmorrhages; for which purpose cloths or dossils dipt in it must be applied to the part.

Tar-water.—Pour a gallon of water on two pounds of Norway tar, and stir them strongly together with a wooden rod: after they have stood to settle for two days, pour off the water for use.

Though tar-water falls greatly short of the character which has been given of it, yet it possesses some medicinal virtues. It sensibly raises

the pulse, increases the secretions, and sometimes opens the body, or occasions vomiting.

A pint of it may be drank daily, or more, if the stomach can bear it. It is generally ordered to be taken on an empty stomach, viz. four ounces morning and evening, and the same quantity about two hours after breakfast and dinner.

SIMPLE DISTILLED WATERS.

A GREAT number of distilled waters were formerly kept in the shops, and are still retained in some Dispensatories. But we consider them chiefly in the light of grateful diluents, suitable vehicles for medicines of greater efficacy, or for rendering disgustful ones more agreeable to the palate and stomach. We shall therefore insert only a few of those which are best adapted to these intentions.

The management of a still being now generally understood, it is needless to spend time in giving directions for that purpose.

Cinnamon Water.— Steep one pound of cinnamon bark, bruised, in a gallon and a half of water, and one pint of brandy, for two days; and then distil off one gallon.

This is an agreeable aromatic water, possessing in a high degree the fragrance and cordial virtues of the spice.

Pennyroyal Water.—Take of 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 hysteric patients.

An infusion of the herb in boiling water answers nearly the same purposes.

Peppermint Water.—This is made in the same manner as the preceding.

Spearmint Water.—This may also be prepared in the same way as the 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 cholicky complaints, the gout in the stomach, &c. particularly the peppermint water.

An infusion of the fresh plant is frequently found to have the same effects as the distilled water.

Rose Water.—Take of roses, fresh gathered, six pounds; water, two gallons. Distil off one gallon.

This water is principally valued on account of its fine flavour.

Jamaica Pepper Water.—Take of Jamaica pepper, half a pound; water, a gallon and a half. Distil off one gallon.

This is a very elegant distilled water, and may in most cases supply the place of the more costly spice waters.

SPIRITUOUS DISTILLED WATERS.

Spirituous Cinnamon Water. — Take of cinnamon bark, one pound; proof spirit, and common water, of each one gallon. Steep the cinnamon in the liquor for two days; then distil off one gallon.

Spirituous Jamaica Pepper Water.—Take of Jamaica pepper, half a pound; proof spirit, three gallons; water, two gallons. Distil off three gallons.

This is a sufficiently agreeable cordial, and may supply the place of the Aromatic Water.

WHEYS.

Alum Whey.—Boil two drachms of powdered alum in a pint of milk till it is curdled; then strain out the whey.

This whey is beneficial in an immoderate flow of the menses, and in a diabetes, or excessive discharge of urine. [It is also very useful in some cases of dysentery, and in checking discharges of blood from the bowels.—Ed.]

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 additon of a little sugar will render it more agreeable.

The dose is an ordinary tea-cupful four or five times a day.

Scorbutic Whey.—This whey is made by boiling half a pint of the scorbutic juices in a quart of cow's milk. More benefit, however, is to be expected from eating the plants, than from their expressed juices.

The scorbutic plants are, bitter oranges, brooklime, garden scurvy-grass, and water-cresses.

A number of other wheys may be prepared nearly in the same manner, as orange whey, cream-of-tartar whey, &c. These are cooling pleasant drinks in fevers, and may be rendered cordial, when necessary, by the addition of wine.

WINES.

The effects of wine are, to raise the pulse, promote perspiration, warm the habit, and exhilarate the spirits. The red wines, besides these effects, have an astringent quality, by which they strengthen the tone of the stomach and intestines, and by this means prove serviceable in restraining immoderate secretions.

The thin sharp wines have a different tendency. They pass off freely by the different emunctories, and gently open the body. The effects of the full-bodied wines are, however, much more durable than those of the thinner.

All sweet wines contain a glutinous substance, and do not pass off freely. Hence they will heat the body more than an equal quantity of any other wine, though it should contain fully as much spirit.

From the obvious qualities of wine, it must appear to be an excellent cordial medicine. Indeed, to say the truth, it is worth all the rest put together.

But to answer this character, it must be used sound and good. No benefit is to be expected from the common trash that is often sold by the name of wine, without possessing one drop of the juice of the grape. Perhaps no medicine is more rarely obtained genuine than wine.

Wine is not only used as a medicine, but is also employed as a menstruum for extracting the virtues of other medicinal substances; for which it is not ill adapted, being a compound of water, inflammable spirit, and acid; by which means it is enabled to act upon vegetable and animal substances, and also to dissolve some bodies of the metallic kind, so as to impregnate itself with their virtues, 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 of tartarized antimony, one scruple; Lisbon wine, ten ounces. Digest, without heat, for three or four days, now and then shaking the bottle; afterwards filter the wine through paper.

The dose of this wine varies according to the intention. As an alterative and diaphoretic, it may be taken from ten to fifty or sixty drops. In a large dose it generally proves cathartic, or excites vomiting.

Bitter Wine.—Take of gentian root, yellow rind of lemon-peel, fresh, each one ounce; long pepper, two drachms; mountain wine, two pints. Infuse without heat for a week, and strain out the wine for use.

In complaints arising from weakness of the stomach, or indigestion, a glass of this wine may be taken an hour before dinner and supper.

Ipecacuanha Wine.—Take of ipecacuanha, in powder, one ounce; mountain wine, a pint. Infuse for three or four days; then filter the tincture.

This is a safe vomit, and answers extremely well for such persons as cannot swallow the powder, or whose stomachs are too irritable to bear it.

The dose is from one ounce to an ounce and a half.

Chalybeate, or Steel Wine.—Take filings of iron, two ounces; cinnamon and mace, of each two drachms; Rhenish wine, two pints. Infuse for three or four weeks, frequently shaking the bottle; then pass the wine through a filter.

In obstructions of the menses, this preparation of iron may be taken, in the dose of half a wine-glass twice or thrice a day.

The medicine would probably be as good if made with Lisbon wine, sharpened with half an ounce of the cream of tartar, or a small quantity of the vitriolic acid.

Stomach Wine.—Take of Peruvian bark, grossly powdered, an ounce: cardamom seeds, and orange-peel, bruised, of each two drachms. Infuse in a bottle of white port or Lisbon wine for five or six days; then strain off the wine.

This wine is not only of service in debility of the stomach and intestines, but may also be taken as a preventive, by persons liable to the intermittent fever, or who reside in places where this disease prevails. It will be of use likewise to those who recover slowly after fevers of any kind, as it assists digestion, and helps to restore the tone and vigour of the system.

A glass of it may be taken two or three times a day.

DR. GRAVES'S TABLE,

SHEWING THE

DOSES OF MEDICINE PROPER FOR DIFFERENT AGES.

AGES.		COMMON DOSE, A DRACHM.	PROPORTIONATE DOSE.
Weeks.	7	One-fifteenth of a drachm, or,	4 Grains.
Months.	7	One-twelfth, ...	5 Grains.
	14	One-eighth, ...	7 Grains and a half.
	28	One-fifth, ...	12 Grains.
Years	3½	One-fourth, ...	15 Grains.
	5	One-third, ...	A Scruple.
	7	One-half, ...	Half a drachm.
	14	Two-thirds, ...	2 Scruples.
	21	Common dose....	A Drachm.
	63	Eleven-twelfths,..	55 Grains.
	77	Five-sixths	50 Grains.
	100	Four-sixths	40 Grains.

Suppose one drachm a sufficient dose for an adult, (i. e. for a person of 21 years,) then the other ages require as above.

The directions contained in this table are more minute than those given at page 559, (Appendix,) and there are cases where this should not be lost sight of. ED.

A STATEMENT

OF THE USUAL

CONTENTS OF A FAMILY MEDICINE CHEST.

Æther,
Antimonial Powder,
———— Wine,
Astringent Powder,
Basilicon,
Blistering Plaster,
Calcined Magnesia,
Calomel,
Camphor,
Chamomile Flowers,
Cold-drawn Castor-Oil,
Cream of Tartar,
Crystallized Lemon-juice,
Elixir of Vitriol,
Emetic Tartar,
Epsom Salts,
Essence of Peppermint,
Fryar's Balsam,
Ginger,
Goulard's Extract of Lead,
Gum Arabic,
Huxham's Tincture of Bark,
Ipecacuanha,
———— Wine,
Jalap,
Laudanum,
Magnesia,
Manna,
Opening Pills,
Opodeldoc,
Paregoric Elixir,
Peruvian Bark,
Rhubarb,
Salt of Tartar,
Sal volatile,
Senna Leaves,
Spermaceti Cerate,
Spirits of Hartshorn,
———— Wine,
———— Lavender,
Sweet Spirit of Nitre,
Tincture of Myrrh,
———— Rhubarb,
Turner's Cerate.

*** For a particular account of the Use and proper Mode of Administering the above list of Medicines, we refer to what is advanced in the preceding dispensatory.

UTENSILS

APPERTAINING TO THE MEDICINE CHEST, AS COMMONLY FITTED UP BY DRUGGISTS.

Besides the various medicines which have been enumerated above, the family medicine chest contains the following articles and utensils, which will be found extremely convenient for enabling the purchaser to employ the several medicines and applications with the greatest advantage.

The smallest weights in the drawer are grains; each circular impression stands for one grain.

There are six other weights in the same drawer:—2 Drachms—1 ditto—½ ditto. 2 Scruples—1 ditto—½ ditto. The respective denominations of which are very plainly marked.

The Glass Measure is gradually from half a drachm up to one ounce, the lowest line standing for half a drachm, the next for one drachm, the next for two, then three, and so on.

The Pewter Measure holds an ounce at the larger end, and half an ounce at the other.

The Funnel serves to convey liquids with neatness from one phial to another.

The Glass Mortar and Pestle are exceedingly useful in mixing and rubbing down various articles, as Magnesia, Bark, Manna, &c. which require to be blended with, or dissolved in fluids. After being used, they should always be very carefully cleaned.

The Spatula is used for the purpose of spreading plasters upon thin leather or rag: it must be heated before it is employed, but not so strongly as to burn the plaster; this is to be particularly attended to with respect to the blistering plaster, which will otherwise be totally spoiled.

The Bolus Knife is convenient for weighing out or dividing powders, and for mixing up boluses, &c.

The Tile is employed in rolling pills, and in making up boluses, and serves also to blend ointments upon, with any requisite addition.

The Lancet is for the purpose of opening a vein, or puncturing any abscess which may have been formed. It is recommended that the same lancet should not be used for opening a vein, that has been used in opening an abscess.

The Syringe is of use to wash out the ear with a little warm water and soap, when that delicate organ is obstructed by wax, &c. which has not unfrequently been the cause of deafness.

An Armed Pipe. When it is necessary to administer a glyster, the pipe and bag, thus prepared, are found very convenient:—A very simple glyster may be readily made, by dissolving two ounces of salt butter in a pint of warm gruel or water, or adding to the above quantity of either, a table spoonful of salt, and two of oil.—When a still more active glyster is requisite, an ounce of Epsom-salt, or of Castor-oil, or of both, mixed with a pint of thin water gruel, may be injected, and repeated in four hours, if necessary.

The Adhesive Plaster is very useful for bringing into close contact the edges of cuts or wounds, and retaining them in that situation; also to apply to tumours, which it is desirable to bring to suppuration, where a poultice cannot be worn; and lastly for blistering plasters. The Cantharides plaster ought to be evenly spread over a surface of sufficient size to leave a margin uncovered, which, when applied, will adhere firmly to the part.

Court Plaster may be applied to small tumours or pimples, which it is desirable to defend from the air, or to render less unsightly. It requires to be slightly wetted before it is made use of.

Lint is applied as a soft dressing to wounds, and to restrain bleeding from divided parts; in the latter case it may be dipped in flour or spirit of turpentine, which is a powerful styptic. When lint is used as a dressing, it is sometimes better to spread its surface with a little ointment, and at others, to apply the lint alone. Wounds which are perfectly clean, or which require to be slightly stimulated, may be treated in this latter manner.

The Tape serves as a bandage for some purposes, and to bind up the arm with, when blood is to be drawn.

GENERAL CATALOGUE

OF

MEDICINES IN COMMON USE,

ACCORDING TO THEIR ENGLISH NAMES, WITH THEIR DOSES.

N. B. The doses here set down, are the smallest and the largest usually given to adults or full-grown persons; for younger persons and infants the dose must be reduced in the proportions mentioned in the preceding Table, but must always be regulated by the strength as well as the age of the patient.

☞ The new names of the drugs are in *Italics*.

A.

Acid, the acetous, ...	from 1 scruple to 1 drachm.
...., *muriatic*, (spirit of salt,)	10 drops to 40 drops.
...., *nitrous*, *diluted*, (aquafortis,)	10 drops to 40 drops.
...., vitriolic, diluted, ...	15 drops to 40 drops.
Æther, *sulphuric*, (vitriolic,)	30 drops to 2 drachms.
Æthiop's mineral. See *Quicksilver, with Sulphur*.	
Aloes, ...	5 grains to 30 grains.
Alum, ...	6 grains to 20 grains.
...., burned, ...	3 grains to 12 grains.
Amber, prepared, ...	½ drachm, 1½ drachm.
Ammonia, prepared, (volatile salt of ammonia,)	10 grains to 1 scruple.
Ammoniac, gum, ...	5 grains to 30 grains.
....., milk of, ...	½ oz. to 2 oz.
Angelica, powdered, ...	½ drachm, 1½ drachm.
Anise, the seeds of, ...	10 grains to 1 drachm.
Antimony, ...	10 grains to 1 drachm.
....., *calcined*, (calx of antimony,) ..	10 grains to 40 grains.
....., glass of, ...	¼ grain to 1½ grain.
....., powder of, a succedaneum for Doctor James's fever powder. It often produces nausea or vomiting.	4 grains to 15 grains.
....., *tartarized*, (tartar emetic,) ..	½ gr. to 4 gr. *emetic*. ⅛ gr. to ½ gr. *alterative*.
Assafœtida, ...	6 grains to ½ drachm.
....., milk of, ...	½ oz. to 1 oz.
Asarum, powder of, to provoke sneezing, ..	3 grains to 5 grains.

B.

Balsam of capivi, ...	20 drops to 60 drops.
..... Canadian, ...	1 scruple to 1 drachm.
..... of Peru, ...	6 grains to 30 grains.
..... of Tolu, ...	6 grains to 30 grains.
Bark, Peruvian. See *Cinchona*, ...	2 scruples to 2 drachms.
Bear's-foot powder, ...	10 grains to 20 grains.
Benzoin, resin of, ...	4 grains to 20 grains.
....., flowers of, ...	5 grains to 15 grains.
Bistort, powder of, ...	1 scruple to 1 drachm.
Bole, Armenian, ...	10 grains to 2 drachms.

Bole, French, ... from 1 drachm to 2 drachms.
Borax, ... 10 grains to 40 grains.
Broom, ashes of the tops of, ... 1 scruple to 1 drachm.
Burdock, powder of the root of, ... 10 grains to 1 drachm.

C.

Calomel, ... { 1 gr. to 3 gr. *alterative.* / 3 gr. to 10 gr. *purgative.*
Camomile in powder, ... 15 grains to 2 scruples.
Camphor, ... 2 grains to ½ drachm.
Canella alba, ... 1 scruple to 2 drachms.
Cantharides, ... ½ grain to 3 grains.
Caraway-seeds, ... 5 grains to 20 grains.
Cardomoms, ... 5 grains to 20 grains.
Cascarilla bark powder, ... 10 grains to 40 grains.
Cassia, the pulp of, ... 2 drachms to 1 oz.
Castor, ... 3 grains to 1 scruple.
Catechu, (Japan earth,) .. .. 20 grains to 1 drachm.
Ceruse, acetated, (sugar of lead,) .. .. .. ½ grain to 2 grains.
Chalk, ... 20 grains to 2 scruples.
Cinchona powder, (Peruvian bark,) .. .. 2 scruples to 2 drachms.
Cinnamon, ... 5 grains to 1 drachm.
Columbo powder, ... 10 grains to 1 drachm.
Confection, aromatic, (cardiac confection,) .. 15 grains to 1 drachm.
....., *opiate*, (London philonium,) .. .. 10 grains to ½ drachm.
Conserve of arum, ... 1 scruple to 1 drachm.
..... hips, ... } as much as you please.
..... oranges, ... }
..... roses, ... }
..... squills, ... 1 scruple to 1 drachm.
..... wood-sorrel, ... ½ oz. to 1 oz.
Contrayerva, ... 10 grains to ½ drachm.
Coriander-seed, ... 1 scruple to 1 drachm.
Cowage, the spiculæ contained in one pod, mixed with honey or molasses, .. or 5 grains to 10 grains.
Crabs'-claws prepared, ... 10 grains to 1 drachm.

D.

Dandelion, expressed juice of, ... 1 oz. to 2 oz.
Decoction of hartshorn, (white decoction,) .. 1 oz. to 6 oz.
Decoction of broom tops: one ounce slightly boiled in a pint and a half of water to a pint, strain the liquor. To be taken by tea-cupsfull at a time.
Decoction of *cinchona*, (decoction of Peruvian bark,) .. .. 1 oz. to 4 oz.
Decoction of the inner bark of elm, ... 4 oz. to 16 oz. daily.
..... of sarsaparilla, ... 4 oz. to 16 oz. daily.
..... of guaiacum, three drachms to a pint of water, ... 1 pint or more daily.

E.

Electuary of cassia, ... 1 drachm to 1 oz.
..... scammony, ... 20 grains to 1 drachm.
..... *senna*, (lenitive electuary,) .. .. ½ drachm to 1 oz.
Elecampane, powder of the root of, ... 10 grains to ½ drachm.
Extract of *cinchona*, (extract of Peruvian bark,) 10 grains to ½ drachm.
.... cascarilla, ... 10 grains to ½ drachm.
.... broom-tops, ... ½ drachm to 1 drachm.
.... chamomile, ... 1 scruple to 1 drachm.
.... *colocynth compound*, (cathartic extr.) 5 grains to 25 grains.
.... gentian, ... 10 grains to ½ drachm.

Extract of guaiacum, ... from 10 grains to 1 scruple.
.... black hellebore, ... 2 grains to 10 grains.
.... jalap, ... 10 grains to 1 scruple.
.... licorice, ... 1 drachm to 3 drachms.
.... logwood, ... 10 grains to ½ drachm.
.... white poppies, ... 1 grain to 5 grains.
.... rue, ... 10 grains to 1 scruple.
.... savin, ... 10 grains to ½ drachm.
.... senna, ... 10 grains to ½ drachm.

F.

Fennel-seed, ... 1 scruple to 1 drachm.
Fern, powder of the root of, ... ½ drachm to ½ oz.
Foxglove, powder of the leaves of, ... ½ grain to 3 grains.
Or a drachm infused in a pint of boiling water, of which the dose is an ounce, once, twice, or thrice a day. This should be used with great care and circumspection, as advised in this work.

G.

Galbanum, ... 10 grains to 30 grains.
Galls, ... 10 grains to 20 grains.
Garlic, clove of, stripped of the exterior skin, .. No. 1 to No. 5.
Gentian, ... 10 grains to 2 scruples.
Germander, ... 15 grains to 1 drachm.
Ginger, ... 5 grains to 20 grains.
Ginseng, ... 20 grains to 30 grains.
Guaiacum, gum-resin, ... 10 grains to 30 grains.
Gum arabic, ... 15 grains to 1 drachm.
.. gamboge, ... 2 grains to 10 grains.

H.

Hartshorn prepared, ... 1 scruple to 1 drachm.
..... *liquor volatile* of, spirit of hartshorn, ½ drachm to 2 drachms.
..... salt of, ... 10 grains to 20 grains.
Hellebore, black, ... 5 grains to 10 grains.
Hemlock, powdered leaves of, ... 2 grains to 15 grains.
.... inspissated juice of, ... 1 grain to 5 grains.
Begin these in small doses, and gradually increase as the constitution will bear.
Honey of roses .... 1 drachm to 2 drachms.
.. squills, ... 10 grains to 2 scruples.

I and J.

Jalap powder, ... 10 grains to 30 grains.
Infusion of gentian, compound, (bitter infusion,) 2 oz. to 4 oz.
Infusion of roses, (tincture of roses,) .... 2 oz. to 8 oz.
.... senna, ... 2 oz. to 4 oz.
Ipecacuanha, ... 10 grains to 30 grains.
Iron, rust of, prepared, ... 6 grains to 30 grains.
.. *ammoniated*, (Martial flowers,) .... 4 grains to 1 scruple.
.. tartarized, ... 2 grains to 10 grains.
.. *vitriolated*, (salt of Mars,) .... ½ grain to 5 grains.

K.

Kino, gum, ... 10 grains to ½ drachm.
Kermes, juice of, ... 1 drachm to 3 drachms.

L.

Lichen, ash-coloured ground, ... 3 grains to 40 grains.
.. Icelandic, a strong decoction of, ... 1 oz. to 4 oz.
Linseed, an infusion of one ounce to a quart of boiling water may be drank in cups-full at pleasure.

M.

Mace, ... from 10 grains to 1 scruple.
Madder, powder of, ... ½ drachm to 1 drachm.
Magnesia, white, ... ½ drachm to 2 drachms.
..... calcined, ... 1 scruple to 1 drachm.
..... vitriolated, (bitter purging salt, or Epsom salt,) .... 2 drachms to 1½ oz.
Manna, ... ½ oz. to 2 oz.
Mastich, gum, ... ½ scruple to ½ drachm.
Milk of almonds, (common emulsion,) .... ½ oz. to 4 oz.
Millepedes, ... ½ drachm to 1 drachm.
Mixture camphorated, (camphor julep,) .... ½ oz. to 2 oz.
Musk, ... 2 grains to 1 scruple.
.. Mixture, (musk julep,) .... ½ oz. to 1½ oz.
Mustard-seed, ... 1 drachm to 1 oz.
Myrrh, gum, ... 10 grains to 1 drachm.

N.

Natron prepared, (soda salt,) .... 10 grains to ½ drachm.
Natron, tartarized, (Rochelle salt,) .... ½ oz. to 1 oz.
Natron vitriolated, (Glauber's salt,) .... ½ oz. to 1 oz.
Nitre, purified, ... 10 grains to ½ drachm.
Nutmeg, ... 5 grains to 1 scruple.

O.

Oil of almonds, ... ½ oz. to 1 oz.
.. castor, ... 2 drachms to 1 oz.
.. linseed, ... ½ oz. to 1 oz.
Olibanum, ... 10 grains to ½ drachm.
Opium, purified, (thebaic extract,) .... ¼ gr. to 1 gr., 3 gr.
In hydrophobia, frenzy, and some other desperate diseases, the dose may be augmented.
Opoponax, ... 10 grains to ½ drachm.
Oxymel of colchicum, ... ½ drachm to 1 drachm.

P.

Petroleum, ... 10 drops to 30 drops.
Pills, aloetic compound, ... 10 grains to 25 grains.
.. of the gums, ... 10 grains to ½ drachm.
.. *quicksilver*, (mercurial pills,) .... 10 grains to 1 scruple.
Pomegranate-rind, powder of, ... 1 scruple to 1 drachm.
Powder of aloes with canella, (hiera picra,) .... ½ scruple to 2 scruples.
.. with guaiacum, ... ½ scruple to 1 scruple.
.. contrayerva compound, ... ½ drachm to 1 drachm.
.. chalk compound, ... ½ drachm to 1 drachm.
.. with opium, ... 1 scruple to 2 scruples.
.. crabs'-claws compound, ... 1 drachm to 2 drachms.
.. *ipecacuanha compound*, (Dover's powder,) ½ scruple to ½ drachm.

Quassia, ... 5 grains to 30 grains.
Two drachms to a pint of boiling water, and of cloves one drachm, for an infusion, ... dose 1 oz. to 2 oz.
Quicksilver, crude, mercury, a very precarious medicine, ... ½ oz. to 4 oz.
..... *calcined*, (calcined mercury,) .... ½ grain to 1½ grain.
..... with chalk, ... 10 grains to ½ drachm.
..... cinnabar of, ... 6 grains to 30 grains.
..... *muriated*, (corrosive sublimate,) .... ⅛ grain to ½ grain.
..... *vitriolated*, (yellow emetic mercury,) ½ grain to 2 gr. *alter*.
..... *with sulphur*, (Ethiop's mineral,) .... 1 scruple to 1 drachm.

R.

Rhubarb, powder of, ...	from 10 grains to 2 scruples.
Resin, yellow, ...	.... 3 grains to 1 scruple.
Rue, powder, ...	.... 1 scruple to 2 scruples.

S.

St. John's wort, ...	.... 20 grains to 1 drachm.
Saffron, ...	.... 5 grains to 20 grains.
Sagapenum, ...	.... 10 grains to 30 grains.
Sal ammoniac, ...	.... 8 grains to 1 scruple.
Salt of Tartar, ...	.... 10 grains to ½ drachm.
Sarsaparilla, powder of, ...	.... 1 scruple to 1 drachm.
Scammony, ...	.... 5 grains to 1 scruple.
Seneka, ...	.... 1 scruple to 2 scruples.
Soap, ...	.... ½ drachm to ½ oz.
Spirit of *ammonia*, (sweet spirit of sal ammonia,)	½ drachm to 2 drachms.
.... *ammonia compound*, (volatile aromatic spirit,)	.... ½ drachm to 1 drachm.
.... *ammonia fœtid*, (volatile fœtid spirit,)	½ drachm to 1 drachm.
.... *Nitrous æther*, (dulcified spirit of vitriol,)	½ drachm to 2 drachms.
.... Vitriolic æther, (dulcified spirit of nitre,)	½ drachm to 2 drachms.
Sponge, burnt, ...	.... 1 scruple to 1 drachm.
Squill, fresh, ...	.... 5 grains to 12 grains.
Sulphur, flowers of, ...	.... 20 grains to 1 drachm.
.... *precipitated*, (milk of sulphur,	.... 1 drachm to 2 drachms.
..... of antimony,	.... 1 grain to 5 grains.
Syrup of buckthorn, ...	.... 1 drachm to 2 drachms.
..... ginger, ...	..... 1 drachm to 2 drachms.
..... poppies, ...	..... 1 drachm to 2 drachms.
Syrups in general, ...	..... the same.

T.

Tartar, cream of, ...	..... 2 drachms to 1 oz.
Tar-water, ...	..... a pint daily,
Tin, powder of, ...	..... 1 scruple to 1 drachm.
Turmeric, ...	..... ½ scruple to 1 drachm.
Turpentine, spirit of, ...	..... 10 drops to 15 drops.
Tincture of aloes, ...	..... ½ oz to 1 oz.
..... *compound*, (elixir of aloes,)	..... ½ drachm to 2 drachms.
..... *assafœtida*, (fœtid tincture,)	..... ½ drachm to 2 drachms.
..... *benzoin compound* (traumatic balsam,)	10 drops to 40 drops.
..... cantharides, ...	..... 1 scruple to 1 drachm.
..... *cardamoms compound*, (stomachic tincture,)	..... 1 drachm to 3 drachms.
..... castor, ...	..... ½ drachm to 1½ drachm.
..... *catechu*, (Japan earth,)	..... 1 drachm to 2 drachms.
..... *cinchona*, (tincture of Peruvian bark,)	1 drachm to ½ oz.
..... colomba, ...	..... 1 drachm to 3 drachms.
..... gentian compound, (bitter tincture,)	1 drachm to 3 drachms.
..... guaiacum ammoniated, (tincture guaiacum volatile,)	..... 1 drachm to ½ oz.
..... black hellebore,	..... 1 scruple to 1 drachm.
..... jalap, ...	..... 1 drachm to ½ oz.
..... myrrh, ...	..... 30 drops to 2 drachms.
..... *opium*, (thebaic tincture,)	..... 10 drops to 40 drops.
.... camphorated (paregoric elixir)	1 drachm to 2 oz.
..... rhubarb, ...	..... ½ oz. to 2 oz.
..... senna, ...	..... 2 drachms to 1 oz.
..... snakeroot, ...	..... 1 drachm to 2 drachms.
..... valerian, ...	..... 1 drachm to 3 drachms.

V and U.

Valerian, powder of,	.....	from 1 scruple to 2 drachms.
Vinegar, distilled,	.....	..... 1 drachm to ½ oz.
.... of squills,	.....	..... ½ drachm to 1½ drachm.
.... as an emetic,	.....	..... ½ oz. to 1 oz.
Vitriol, blue, (vitriolated copper,)		..... ¼ grain to 2 grains.
..... violently emetic,		..... 5 grains to 1 scruple.
Uva ursi, in powder,	.....	..... 15 grains to 1 drachm.

W.

Water, the simple distilled waters may generally be given,	.....	..... ½ oz. to 2 oz.
Wine of aloes, (sacred tincture,)		..... ½ oz. to 1 oz.
..... antimony,	.....	..... 20 drops to 2 drachms.
..... ipecacuanha,	.....	..... 1 drachm to 1½ oz.
..... rhubarb, (vinous tincture of rhubarb,)		½ oz. to 2 oz.
Winter's bark, or canella alba,		..... 1 scruple to 2 drachms.
Worm-seed,	.....	..... ½ drachm to 1 drachm.

Z.

Zinc, calcined, (flowers of zinc,)		..... 1 grain to 5 grains.
.. vitriolated, (white vitriol or salt of vitriol,) as a tonic,	.....	..... 1 grain to 5 grains.
.. , as a quickly operating emetic, in cases of poison or the like being swallowed,	.....	10 grains to ½ drachm

GLOSSARY.

ALTHOUGH terms of art have been sedulously avoided in the composition of this treatise, it is impossible entirely to banish technical phrases when writing on medicine, a science that has been less generally attended to by mankind, and continues therefore to be more infected with the jargon of the schools, than perhaps any other. Several persons having expressed their opinion that a glossary would make this work more generally intelligible, the following concise explanation of the few terms of art that occur, has been 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 mankind.

A.

ABDOMEN. The belly.

Absorbents. Vessels that convey the nourishment from the intestines, and the secreted fluids from the various cavities into the mass of blood.

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.

Antispasmodic. Whatever tends to prevent or remove spasm.

Aphthæ. Small whitish ulcers appearing in the mouth.

Astriction. A tightening or lessening.

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 the *atra bilis*, or the black bile.

B.

Bile, or Gall. A fluid which is secreted by the liver into the gall-bladder, and from thence passes into the intestines, in order to promote digestion.

C.

Cacochymie. An unhealthy state of the body.
Caries. A rottenness of the bone.
Chlorosis. The green sickness.
Chyle. A milky fluid separated from the aument in the intestines, and conveyed by the absorbents into the blood, to supply the waste of the animal body.
Chronic. A disease whose progress is slow, in opposition to acute.
Circulation. The motion of the blood, which is driven by the heart through the arteries, and returns by the veins.
Comatose. Sleepy.
Conglobate Gland. A simple gland.
Conglomerate. A compound gland.
Contagion. Infectious matter.
Cutaneous. Of or belonging to the skin.
Cutis. The skin.
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.
Critical Days. The fourth, fifth, seventh, ninth, eleventh, thirteenth, fourteenth, seventeenth, and twenty-first, are by some authors denominated critical days, because febrile complaints have been observed to take a decisive change at these periods.

D.

Debility. Weakness.
Delirium. A temporary disorder of the mental faculties.
Diagnosis. The signs by which one disease may be distinguished from another.
Diaphragm. A membrane separating the cavity of the chest from that of the bel y.
Diuretic. A medicine that promotes the secretion of urine.
Drastic. Is applied to such purgative medicines as are violent or harsh in their operation.

E.

Empyema. A collection of purulent matter in the cavity of the breast.
Endemic. A disease peculiar to a certain district.
Epidemic. A disease generally infectious.
Exacerbation. The increase of any disease.

F.

Fæces. Excrements.
Flatulent. Producing wind.
Fœtid. Emitting an offensive smell.
Fœtus. The child before birth, or when born before the proper period, is thus termed.
Fungus. Proud flesh.

G.

Gangrene. Mortification
Ganglia, Gummata. Venereal excrescences.
Gymnastic. Exercise taken with a view to preserve or restore health. —The ancient physicians reckoned this an important branch of medicine.

H.

Hæmorrhage.—Discharge of blood.
Hæmorrhoids. The piles.
Hectic Fever. A slow consuming fever, generally attending a bad habit of body, or some incurable and deep-rooted disease.
Hypochondriacism. Low spirits.
Hypochondriac viscera. The liver, spleen, &c. so termed from their situation in the hypochondriac or upper and lateral parts of the belly.

I.

Ichor. Thin bad matter.
Imposthume. A collection of purulent matter.
Inflammation. A surcharge of blood, and an increased action of the vessels, in any particular part of the body.
Inflammatory Diathesis. Disposed to inflammation.

L.

Ligature. Bandage.
Lixivium. Ley.

M.

Miliary Eruption. Eruption of small pustules resembling the seeds of millet.
Morbific. Causing disease, or diseased.
Mucus. The matter discharged from the nose, lungs, &c.
Mysentery. A double membrane, which connects the intestines to the back-bone.

N.

Nervous. Irritable.
Nausea. An inclination to vomit.
Nodes. Enlargements of the bones produced by the venereal disease.

P.

Pectoral. Medicines adapted to cure diseases of the breast.
Pelvis. The bones situated at the lower part of the trunk; thus named from their resembling in some measure a bason.
Pericardium. A membrane containing the heart.
Peripneumony. Inflammation of the lungs.
Peritonæum. A membrane lining the cavity of the belly, and covering the intestines.
Peritonitis. Inflammation of the belly.
Perspiration. The matter discharged from the pores of the skin in form of vapour or sweat.
Phlegmatic. Watery, relaxed.
Phthisis. Pulmonary consumption.
Plethoric. Replete with blood.
Polypus. A diseased excrescence, or a substance formed of coagulable lymph, frequently found in the large blood-vessels.
Prognosis. The art of foretelling the event of diseases from particular symptoms.
Pus. Matter contained in a boil.

R.

Regimen. Regulation of diet.
Rectum. The straight gut, in which the fæces are contained.
Respiration. The act of breathing.

S.

Saliva. The fluid secreted by the glands of the mouth.
Sanies. A thin bad matter, discharged from an ill-conditioned sore.
Schirrus, or *Scirrhus.* A state of diseased hardness.
Slough. A part separated and thrown off by suppuration.
Spasm. A diseased contraction.
Spine. The back-bone.
Styptic. A medicine for stopping the discharge of blood.
Syncope. A fainting fit attended with a complete abolition of sensation and thought.

T.

Tabes. A species of consumption.
Temperament. A peculiar habit of body, of which there are generally reckoned four, viz. the sanguine, the bilious, the melancholic, and the phlegmatic.

V.

Vertigo. Giddiness.

U.

Ulcer. An ill-conditioned sore.
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.

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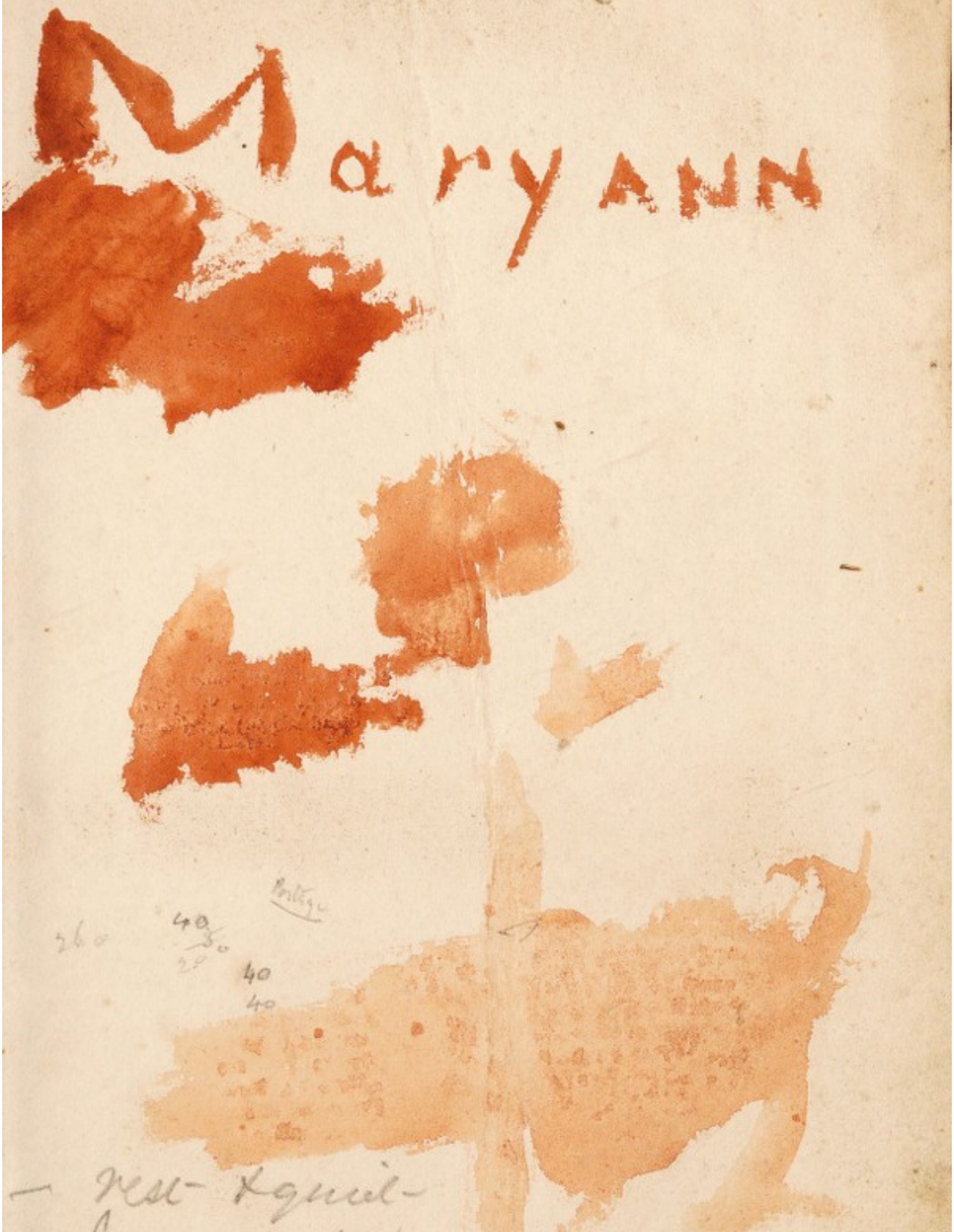

Maryann

Portage

260 40 50 20 40 40

- rest & quiet
- Milk & water & oatmeal & eggs
- Mustard plaster
- Nitre 1 scruple & t 1½ scruples
- Ipecac wine 2 drac Epsom Salt 1 dr
  every 2 hours & after bleeding