Observations on fever / by R. Wade.

OBSERVATIONS

ON

FEVER.

BY R. WADE,

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TO THE

SUBSCRIBERS AND MEDICAL OFFICERS

TO THE

Westminster General Dispensary.

MY LORDS, LADIES AND GENTLEMEN,

PERMIT me most respectfully to dedicate the following Work to those whose kind exertions elected me to the situation which I have the honor to hold, and to assure you that the invariable liberality which I have experienced during the time my services have been devoted to the excellent and charitable Institution under your guidance, will always be remembered by me with gratitude, and I shall never cease to be,

My Lords, Ladies and Gentlemen,

Your obliged

And obedient servant,

R. WADE.

PREFACE.

In offering the following observations to the notice of Students, for whose use they are expressly intended, I must beg to explain my reasons for thus occupying their attention. Having been constantly with pupils during the last five years, I have had various opportunities of ascertaining their opinions of disease. When questioning them as to their views regarding the theory and practice in fever, scarcely any of them have been at all decided in the course they should adopt, not knowing which of the many theories and consequent modes of treatment to prefer. Blood-letting has great charms with most students; there is at once a boldness and decision in the remedy which pleases them; besides, it is surgical. It has appeared to me of late, that their great error has been to treat fever

too much like a mere local inflammation, than as a disease which is probably to last for two or three weeks, and perhaps longer. Even the works of Clutterbuck and Armstrong, which have so much improved the pathology of fever (and which cannot be spoken of too highly), are quoted by pupils as a sanction to their most daring achievements with the lancet. We are all too apt to run into extremes, instead of prudently adopting the maxim of the poet, "Medio tutissimus ibis." To cause the student to reflect well as to what extent he may safely carry bleeding in continued fever,—to call particularly his attention to all those remedies which will frequently prevent the loss of blood, and more especially to impress on his mind the wide difference between the treatment of a simple local inflammation and continued fever, has been a great object in the ensuing remarks. I have avoided the introduction of cases in the treatment, being well aware that but few students have patience to read the same dull details over and over again; besides they would also have increased the

contents of the book, and consequently rendered it more expensive. In the examples of fever it has been my endeavour to combine the information that might be derived from a number of cases, and at the same time to explain, in as clear a manner as the complicated nature of the subject would permit, the phenomena usually attending fever.

In the remarks on general principles, my design was to point out their injurious tendency unless received with caution ; it being far from my intention to condemn every book on fever, but merely those in which any particular method of practice is too much recommended. Nor do I dissuade the student from reading such books, as much useful information may be derived from them when perused with discrimination. I have now only to request the indulgence of my readers for the following work ; and beg to assure them, that when any explanations of subjects not admitting of proof have been given, they are offered with considerable diffidence, and more with

a view of exciting reflection than any other. Perhaps I cannot conclude better than by advising the student to bear in mind an excellent observation of Mr. Brodie's in one of his Lectures delivered before the Royal College of Surgeons, viz. " that the discovery of what is not, is the first step towards ascertaining that which is."

INTRODUCTION.

A MORE important subject than Fever cannot present itself to our notice ; for in this disease, not only every function of the body may be more or less disturbed, but there is scarcely an organ which may not become altered in structure during its course. Perhaps it is chiefly from this cause, viz. the variety of parts that have been affected during fever, that so much difference of opinion has prevailed concerning its nature: some have even denied its existence as an idiopathic disease, having considered it to be invariably symptomatic of some organic affection. Upon reviewing the history of medical science, it will naturally excite our surprise to find what very little advance has been made in it till of late years. It has been asserted that this want of improvement in medicine has arisen principally from the natural indolence of mankind, which has induced them to pay a blind deference to high authorities, without taking the trouble of inquiring into, or questioning the doctrines which they support, and comparing them with the phenomena of nature. The human mind is naturally prone to indolence : there are so many

temptations to pleasure, that it requires great self-control to resist their allurements, to which our better resolves are too often sacrificed: and how frequently do we make resolutions one day only to break them the next. If it were not from the desire of pre-eminence, of being estimated amongst our fellow men, the progress of science would indeed be slow. To the credit of mankind be it spoken, it is to this desire of pre-eminence, more than to the love of gain, that science is indebted for her most splendid discoveries. In proof of this assertion many living examples might be brought forward; but here the ever to be revered name of John Hunter involuntarily presents itself, the whole powers of whose clear and comprehensive mind were devoted to the great end of illustrating the phenomena of life. How far he succeeded, the annals of our surgery proudly record. No sordid motives guided this distinguished physiologist; highly gifted by nature, he more than repaid her kindness by displaying to the admiration of the world the varied charms of her works, and not only of those upon the land, for scarcely an inhabitant of the ocean, however minute and insignificant before, failed under his notice immediately to possess additional claims to our attention, and became, as it were, a different being clothed in new beauty by the wand of a

magician. How nobly he requited the gifts which nature lavished on him is not so much shewn in his mere illustrations of the structure of her works; but, with the inspiration of Newton, Mr. Hunter has also made manifest the design and infinite wisdom in their creation, never for a moment forgetting in their mystic labyrinths the glorious Architect who formed the whole. Instead of appropriating the profits derived from the arduous duties of public practice to his domestic comforts, he employed them to enrich that profession of which he was himself the brightest ornament.

Let me particularly impress on the mind of the student, that, whatever may be his talents, a constant application is necessary to obtain a knowledge of his profession; he must neglect no opportunity of improvement, and every other pursuit must give way to the one which he is to follow. He must shrink from no labour that his health will permit. The more experience a man acquires of our profession, the more will he feel his own ignorance, and consequently increase, rather than diminish, his exertions. It is no doubt a very delightful feeling to fancy ourselves wiser than others, but it is one that probably operates more strongly than any other against us; the veriest dunce in creation may

find his fellow-dunce, and draw comparisons favourable to himself. Instead of the student comparing himself with his fellow-student, let him consider the wide difference between himself and those who stand at the head of his profession, at once its ornaments and guides; he will then have no reason to flatter himself; on the contrary, his own defects must become apparent. Every one should feel anxious to attain the first rank in his profession: this is impossible for all to do, even had they the same capacities, some having more favourable opportunities than others for the acquirement of professional knowledge; yet the feeling must do good, for it will be the incentive to take quick steps on our march in the pursuit of science, and to relax as little as possible on the journey. Whilst there is any thing to learn, we have no right to diminish our exertions; and there will be no want of amusement for the longest life. In other professions idleness will perhaps admit of excuses. But what is our object? Can there be one greater than to restore or preserve to our fellow-creatures the invaluable blessing of health, a gem above all price, beside which, the diamond that glitters in the monarch's crown loses its lustre, and without which the head that wears the diadem would throb with oppression under its weight. It is a common observation, that great genius is seldom attended with that perseverance

by which men not so highly gifted are distinguished. Men of genius are more courted in society, and therefore have greater temptations to indolence; whilst the man of duller parts finds his only chance of distinction is persevering industry. Hence the plodding man frequently grows fat whilst the man of genius starves.

Let none, however humble their capacity, feel discouraged when entering on the study of physic: let them read the best practical works on the science they have chosen; let them be diligent and persevering, and as facts may be observed by all, probably as much success will eventually crown their efforts as those of their apparently more fortunate rivals.

It is far less humiliating to mankind to attribute this slow advancement of our science rather to the enthusiastic attachment of pupils to their teachers, and consequently to their doctrines, than to indolence. When we consider, in the state of our knowledge at the present time, what these doctrines were as regards Fever, their duration for so long a time, in spite of all the allowance which can possibly be made, cannot fail to excite surprise, so repugnant as the practice of them must have been to the feelings of the sick. A slight mention of what

these doctrines were, may not perhaps prove entirely uninteresting to the student.

Hippocrates conceived the constituent principles of the body to be blood, phlegm, bile, and black bile, undue proportions of which generated feverish action: he therefore regarded fever not as a disease, but as an effort of nature excited to expel the offending matter, and, consequently, a most salutary process.

When we reflect upon the length of time that the humeral pathology existed, with its unintelligible jargon of concoction, fermentation, ebullition, &c. whose authors, instead of considering the fine frame of man as most intelligent in design, and governed by the wisest laws for his self-preservation, must have regarded his alimentary canal as merely a chemical laboratory, and his whole structure as nothing more than a complicated piece of machinery; it will readily be perceived what an injurious effect this doctrine must have had upon the practice in fever, which was that of encouraging the excitement, and the length of its duration is only to be accounted for by the attachment of pupils to their masters; for, surely, if it had not been for such entire devotion, however indolent, one would naturally suppose that so many practical facts,

in strong opposition to their practice, as they must have daily witnessed, would have been sufficient to open their eyes had they not been wilfully blind.

For nearly two thousand years did the authority of Hippocrates and the humeral pathology, a little modified by Galen, influence the practice of the different schools of physic, being only occasionally questioned by a few, such as Asclepiades, whose notions of disease were founded on mechanical views; also by Paracelsus. The last denied that superabundant humours were the cause, maintaining them to be the effects, of disease. He supposed that in the production of disease there were three agents, viz. salt, sulphur, and mercury; the first he considered to impart solidity, the second heat, and the last fluidity, the due proportions of each constituting health.

To our illustrious countryman, Sydenham, we are indebted for the injurious practice inculcated by the humeral pathologists in fever being abolished. Although he retained in a great measure this pathology, yet, being perhaps one of the most accurate observers that ever lived, by faithfully recording the phenomena of disease, and consulting the feelings of his patients, he

had at length the courage to adopt the anti-phlogistic plan of treatment in fever, in opposition to the opinions and practice of all his cotemporaries.

The humeral pathology might still perhaps have prevailed, but for the improved opportunities of pursuing anatomical investigations, as well as the many important discoveries in chemistry, which have at length forced us to renounce the splendid fictions of genius, and adopt in their stead sound facts, incontestably established by the meritorious and indefatigable labours of individuals, who, instead of forming theories by which enthusiasts could satisfactorily in their heated imaginations account for every thing, have patiently investigated, and by a series of experiments arrived at just conclusions drawn from the unerring laws of nature!

In acknowledging our obligations to chemistry, we must not forget those we owe to the labours of Haller and others, but more especially to the enlightened physiology of Hunter, whose discoveries, brilliant as the mind from which they emanated, would alone have consigned the doctrines of the darker ages to oblivion.

ON GENERAL PRINCIPLES.

When we consider the complicated structure of the human body, the various sympathies of different organs, their harmony in health and discordance in disease, together with the quick transition of functional into organic derangement, it cannot occasion surprise to find that so few of the general principles laid down by writers have stood the test of experience. General principles, or too sweeping conclusions, have appeared to me more injurious with regard to fever than any other disease; and for this reason, that, a greater variety of organs being affected, both remote as well as immediate sympathies are aroused, and the difficulty of forming proximate causes thus increased. If the proximate cause be wrong (which, in a general application, it must inevitably be occasionally in fever), what can we expect from our practice if regulated by it? Our foundation being weak, the superstructure must unavoidably fall when tried by the surest test, that of time and experience; and this has been the case with the different theories of fever. These theories may shine in a book, but at the bedside of the patient their mischief is incalculable.

The man who regards a disease with any particular theory, may be compared to one who surveys different objects through a coloured glass, when, however various their hues may in reality be, still each will receive a peculiar tint from the medium through which they are surveyed. I do not mean to say that it is impossible to establish any general principles in fever, but merely that they should be received with great caution, taking care to make them subservient to facts, and not, as is too frequently the case, making facts give way to theories.

Considering then the difference of fevers, and the variety of organs that may suffer, surely it is a most dangerous thing here to generalize much ; for although to the man of experience it may do little harm, as he will rather be guided by his practice than theory ; yet on the young practitioner it will produce a very different effect, for early impressions are not easily effaced, and he will besides naturally feel a wish to support the doctrines of his teacher.

Every young man when first entering on the practical duties of his profession and encountering its fearful responsibilities, must have met with many a bitter disappointment in practice, finding in every day's experience too many of

our boasted remedies falling far short in virtue to what his reading had taught him to expect. He has read the best descriptions of, and attended the best lectures on diseases; their remedies perhaps are as familiar to him as their symptoms. He knows the structure of the human body—the accidental injuries to which it is subject—can describe with accuracy the different operations which may be performed for their cure. With all this knowledge, however, he will be like one who has read the best descriptions of a country, the customs and manners of its inhabitants; yet, never having himself travelled through the parts of which he has read, should occasion call upon him to visit them, he will not only find many things to learn, but that he has also formed many erroneous conclusions, which a minute survey of the country, and a continued observation on the character of its inhabitants can alone enable him to correct.

General descriptions of disease must from their very nature be imperfect—as the unprejudiced traveller will have an advantage in his observations over one who has formed his opinions of the character of a whole nation, perhaps from examples taken from a few of its individuals; so will it be with respect to disease: for the observer who takes a calm and

dispassionate view, without any particular theory, anxiously regarding every fact that may throw new light on his mind, will be much more likely to arrive at just conclusions, than one who, having already formed his opinions of the nature of disease from superficial views, prescribes under pre-conceived impressions.

Different writers, and those men of the greatest genius, have given us laws by which to regulate our practice; yet, their very genius has frequently led them astray, and by entering into wide speculations, they have done more harm by influencing the practice of their less gifted brethren, than good by their many valuable observations. The science of medicine has seldom been much advanced by imagination, and the plain narrator of facts will do more real good than the framer of systems. In youth, when fancy reigns uncontrolled by experience, and caution has little sway, theories are most dangerous; for the mind embraces them with eagerness, and, as it were, at one grasp arrives at conclusions which years of toil would not perhaps enable it to obtain.

The student is indeed placed in an awkward situation as regards his practice in fever, so very opposite are the treatments recommended

by different writers: one tells him to bleed largely at the commencement of Typhus, and that, as he diminishes the excitement in its early stage, so will he prevent the ensuing debility—another will tell him that should he bleed in Typhus he will kill nineteen patients out of twenty; this last writer, no such friend of Sangrado as the preceding one, quite damps his ardour for the use of the lancet. Perhaps a third, being himself very fond of using the cold effusion, will highly extol this remedy, and advise him to rely chiefly upon it; pursuing at the same time the antiphlogistic plan strictly. From reading the successful result of the practice of this last author, ascribed almost entirely to the cold affusion, and being more than ever impressed with the virtues of cold water (its simplicity also recommending it) he will probably determine to adopt this practice. It may so happen that the very next author he reads will quite freeze all his cold water mania, and frighten him out of its use by saying that, if he ever have recourse to the cold affusion, which it is not often safe to do, that it requires great caution in its management. He will also tell him that many patients have never recovered from the shock occasioned by it, not having sufficient powers for the necessary reaction; or, if there be sufficient power, that it frequently does great

harm, by occasioning a determination of blood to some internal part, whose vessels are in a weak state, and thus gives rise to local disease. One would naturally suppose that all difficulty on the part of the student would be got over by comparing the different methods of treatment, and of course adopting that which was most efficacious; yet, however extraordinary, each writer, for the most part, brings forward such strong evidence in favour of his particular plan of treatment, that the reader is as much in the dark as ever as to which he must pursue, and is in fact left to the sage conclusion that all are equally good.

To what then are we to attribute this diversity of opinion? Two conclusions will naturally force themselves on the mind, either that it matters little what plan of treatment we pursue in fever; or that each writer, strongly impressed with the utility of his particular method in many cases, recommends it too indiscriminately; not sufficiently considering that, although a particular course of treatment may prove highly useful in one case; yet, some slight shade of difference in the character of another may render the same course very injurious. The desire of generalizing too much here does infinite harm, and causes many very useful

remedies to fall into disrepute by the injudicious recommendation of them.

ON CONTAGION.

Of the precise nature of contagion we know little or nothing; it is made manifest to us alone through its effects, or the diseases which it induces—it is conjectured to be a subtle matter floating in the atmosphere, or attached to different bodies, and when applied to the human, capable of altering its healthy action, and producing a diseased one, provided it be sufficiently concentrated, and circumstances favourable to its operation.

Some have supposed that contagion is taken into the lungs in inspiration; in support of this opinion, it has been stated that miasma is retained in a more concentrated form near the ground, in contact with vegetable matter, and that the workmen employed in cutting wood are observed seldom to become affected with fever, unless they lie down and thus inhale the contagion. The circumstance just alluded to does not surely appear any proof that contagion acts through the medium of the lungs—is not the situation equally favourable for swallowing a

dose as breathing one? besides, would not a state of inaction, and frequently of sleep, very satisfactorily account for these men being more susceptible of the action of contagion in the recumbent position? Its effects, however, are the objects of our inquiry, which are fevers of various kinds.

The causes most strongly predisposing to its action are fear, fatigue, hunger, a full stomach, sorrow, &c.—in short, every thing which weakens, or increases the irritability of the body. Its effects may be felt almost immediately if the dose be highly concentrated, and the person strongly predisposed, or they may be very slowly made manifest;—perhaps in as long a time as a month, but generally from ten days to a fortnight. Some persons when exposed to contagion have said that they experienced a copperish taste—others have complained of an earthy smell, followed by nausea, or a peculiar and indescribable sensation about the stomach. It has been found most virulent when recently escaped from the dead body, or after having become attached to sheets, blankets, wearing apparel, bedsteads, woollen or cotton substances, cats, dogs, paper, &c. and which has accumulated for some time, forming what are called fomites. The worst kind of infections have oftener spread from clothes which had im-

bibed the effluvia, than direct from the infected subject.

The best means of guarding against its influence are, by diluting the contagion as much as possible, by the admission of pure external air, by keeping the body very clean, and also by destroying the substances imbued with it; the shirt, bed-clothes, &c. should be changed very often; and, if there be a current of air, by standing to leeward of the patient.

EFFECT OF CHARMS.

While speaking of the means used for guarding against contagion, it will be as well to mention the effect of charms, or amulets, which were formerly held in much repute, not only for their supposed power of insuring the fortunate wearer against infection, but also for curing diseases. However useful amulets may have formerly been, but little can be expected from them in the present times. Under a more enlightened philosophy the many superstitions so cherished by our ancestors have gradually died away; consequently, amongst the well-informed in our days charms would be of no use, for the

virtues of an amulet necessarily die with the faith of its possessor. There can be little doubt that charms were formerly of some utility, although their qualities have been greatly exaggerated. Fear has long been considered as a very strong predisposing cause to fever—can we then be surprised at the effect of amulets, particularly when we reflect that their operation was not only favoured by the natural superstition of the times, but also by the influence of the priests, who recommended them as saintly relics? Thus doubly rendered effectual, many extraordinary cures have been ascribed to them.

The possessor of an amulet, fully persuaded of its omnipotence in protecting him from infection, could have but little fear of contracting a disease; thus, one of the strongest predisposing causes being removed, he would frequently escape through a feeling of security. In many parts of the country, amongst the simple villagers, amulets are yet in request, particularly in Epilepsy and Agues, and many an old woman, the traditionary oracle of the place, still deals out her charms with no unsparing hand upon the untutored children of Nature who believe in her powers. A person affected with ague will probably dread every fit, give him a

charm in which he has faith, and this dread ceases; consequently, a powerful depressing cause is removed.

The influence of the mind over the body is so well known and so universally felt, that although the quackery of employing charms as antidotes to contagion is almost entirely laid aside; yet, by gaining the confidence of a patient, we shall do as much towards the prevention or cure of disease among the more enlightened of the present day, as could formerly have been accomplished amongst the ignorant by the aid of the most potent of their saints. If we possess the confidence of a patient, every thing recommended by us will be received with a prepossession in its favour; it behoves us therefore to be careful how we employ any means which have not some shew of reason to recommend them. These should be as simple as possible, and explained in a manner that all may comprehend, and not encumbered with the parade of science from a desire to appear learned; or, like the philosopher in Rasselas, the more we say the less intelligible shall we become. One might as well talk Greek to a Hindoo, as speak in the language of a science of which our patients are for the most part entirely ignorant. If we are clear in explaining our intentions, our auditors will naturally con-

clude that we ourselves have clear views; on the contrary, if they do not comprehend us, although they may suppose that we are wiser than themselves; yet, a most important point is lost, that of producing conviction on our hearers. Any means which have reason to recommend them may be employed as antidotes; such as fumigations, aromatic vinegar, camphor, &c.—not that I mean for a moment to contend that a piece of camphor itself has any particular virtue as an antidote; yet, when recommended by a medical attendant in whom confidence is reposed, it will possess the virtue of rendering the mind more cheerful by diminishing the dread of disease. In short, every means should be taken to amuse the minds of those who are necessarily exposed to contagion, in order to prevent their thoughts from dwelling upon the danger to which they are liable.

ON THE BRAIN AND NERVES.

May not we consider the relation which the Brain and Nerves bear to each other in some degree as similar to that of the heart and arteries? As the heart is the grand agent of circulation, supplying the different parts of the body with blood, so may the brain be regarded

as the centre, and probably, with the spinal marrow, the source from which the different nerves derive their supply of nervous fluid, or influence, whatever it may be. Thus far we know, that a nerve to possess its property of sensation must be connected with the brain, or spinal marrow, which is, in fact, a continuation of the former: whether, or not the brain, as the centre, may be considered as having a greater power of resisting those causes tending to the destruction of nervous power is a matter of speculation. We find in fever, when the due balance of nervous power and of the circulation is interrupted, that sooner or later an increased excitement of the brain takes place, that is, as soon as its vessels can recover from the state of congestion into which they are thrown from the accumulation of blood which takes place in the internal parts of the body before the excitement begins. During the formation of fever, when the healthy balance of the system is disturbed, there is a want of circulation on the surface of the body; consequently, the blood accumulates about the internal parts, and in the cold stage of fevers, or in those which have no well marked cold stage during their formation, that is, before the excitement commences, the different organs must necessarily have their functions much impaired from the unusual distention of their

vessels, and their action may then very properly be termed laboured.

If the cause which interrupts the harmony of power existing in health be not sufficient to destroy life, we find that, although the functions of the brain and heart are depressed for a time, an increased action follows; this action being greater or less according to the strength of the constitution affected, as well as the injury sustained. The very determination of blood to the heart, which at first occasions a laboured action, is most probably, as soon as it can recover from the unusual pressure, a stimulus to it. It would appear that when the heart is called upon to make an increased effort, rigors frequently take place: when the arteries of a part assume that peculiar action necessary for the formation of pus, these rigors occur more or less, here a new action being established, an increased effort on the part of the heart is called for. This subject is very ably treated by Sir Astley Cooper in his surgical lectures. Why the rigors should be so much more severe in intermittent than continued fever may perhaps be in some measure accounted for by the determination of blood to the heart being in the former more sudden, causing it to feel the shock more than in the latter, where it takes place in a gradual manner, and thus its vessels become habituated to the

pressure, although they do not so soon recover themselves.

Discarding theory altogether, we must at present rest content with knowing the actions which take place in fever; and whilst the precise functions of the nervous system remain in a great degree involved in obscurity, we can hardly expect to discover the true manner in which contagion acts. Let us not, however, despair of ultimately arriving at just conclusions even on this (at present) obscure subject: the physiology of the nerves has lately been so much improved by the interesting and highly important discoveries of Mr. Charles Bell, that it is impossible to say to what they may lead.

The excitement of the brain in fever is frequently so great as to constitute phrenitis, particularly if not moderated by proper treatment: indeed, so great is the tendency to increased action in the vessels of the brain, that some pathologists have been induced to consider phrenitis as the proximate cause of continued fever. It is a singular fact, and not to be easily accounted for, that in intermittent fever, unattended by organic disease, however great the excitement be during the paroxysm, yet, when this ceases, that is after the sweating stage, the different

functions generally return to their usual state, and remain so till the commencement of the next, perhaps for forty-eight hours or more. In continued fever, the vessels of the brain, when once excited to action, do not recover themselves so readily as in intermittent; but there will be more or less disposition to increased action frequently for several days. In continued fever, also, the excessive action is not generally relieved, as in intermittent, by a copious perspiration, nor does the contagion, which in this country induces the latter, appear of so injurious a nature as that which gives rise to the former. A paroxysm of intermittent comes on for the most part when the different functions are performed in perfect health, whilst, on the contrary, the contagion which excites continued fever is generally slower in its action, and the different functions are but imperfectly exercised when the excitement begins, consequently but badly prepared for any undue action, and do not appear to recover themselves so quickly. In fever of the low or typhoid kind, symptoms indicating an accumulation of blood in the brain, lungs, liver, heart, and larger vessels are frequently observed to take place, sometime, before the excitement commences. When it does occur, therefore, we may fairly conclude that it will not be so well supported as a greater excitement, provided the

fever were quicker in its formation, and the vessels had not been weakened by previous diseased action.

DISSECTIONS.

Post mortem examinations of those who have died in the earlier, have not so much enriched pathology, as such examinations of those who have fallen in the latter stages of fever, when functional derangement has continued sufficiently long to induce organic mischief; then dissections have been eminently useful in pointing out those parts which have suffered most, and thus putting us on our guard in practice. In many cases so great is the general disturbance and pain, that considerable organic disease may take place without our attention having been much called to the affected part. In these examinations, inflammation of some important viscus has generally been discovered, either with or without some of its sequels: they have shewn us, that in certain epidemics particular parts of the body seem more predisposed than others to disease. In warm climates, the stomach, intestines, and liver, are most frequently found inflamed, ulcerated, thickened, and agglutinated to each other, or to the parietes enclosing them; also, occasionally floating in serous effusion.

They are occasionally found in a state of gangrene and sphacelus. The brain and lungs are not so often affected in warm climates as the organs before mentioned; but in this they are most generally found in a state of congestion or inflammation, attended by serous effusion, or coagulable lymph betwixt the meninges or pleuræ, or in the ventricles, abscess or gangrene of these parts being very rare, the membranes sometimes adhere, or are thickened: the stomach and intestines are also occasionally diseased. In a case of fever which terminated fatally, and where I had an opportunity of examining the body, intestinal ulceration appeared to have been the cause of death. The patient was considered convalescent, the pain in the head and delirium had subsided, the tongue had become clean, in short, most of the unfavourable symptoms had disappeared, when a distressing diarrhœa occurred, attended with considerable griping pains, and in three days from its occurrence the patient died. On dissection, the only marks of organic disease were in the mucous membrane of the intestines, which was ulcerated in several places. The mucous membrane of the bladder is occasionally inflamed, as are also the spleen, pancreas, and kidneys.

It has been urged by those who deny the

existence of idiopathic fever, that these morbid appearances are the cause and not the effect of feverish action; that they are sometimes the cause, but little doubt can be entertained; yet, as these local affections have not been often observed in the very early stage of fever where opportunities for post mortem examinations have occurred, and as there are many cases where no morbid appearances have been detected in those who have died in the latter stages, we are surely fairly warranted in concluding that fever is frequently an idiopathic disease.

DIFFERENCE OF FEVERS.

Fever may be said to take in some measure the character of the individual whom it attacks, and its difference will depend more on the constitution of the person affected than on the cause which induced it. For instance, let four people visit a patient who has fever of the worst kind—one of these may have Typhus Gravior, another Typhus Mitior, a third shall have a mild Synochus, while perhaps the fourth will only have a few feverish symptoms, which will subside without any regular fever having been established. Fever arising from animal contagion is more prone, in this country, to assume a typhoid

character, than when occasioned by vegetable miasma. In warm climates, the fevers induced by vegetable contagion are attended by very high excitement in the commencement, which is often so great that the powers of life can only support it a short time, and a state of debility quickly follows should the patient get through the first stage of excessive action. We find that the worst kind of Typhus arises from pent up animal effluvia, as, for instance, the gaol fever.

A fever arising from cold, or the application of stimuli may, under unfavourable circumstances, degenerate into Typhus Gravior, that is, if the patient be exposed to impure air from want of proper cleanliness being observed, and his room being also badly ventilated. Thus a fever perfectly mild in its commencement, and which under proper management would quickly have subsided, may be rendered contagious. In warm climates, owing to the rapid decompositions going on in vegetable matter, in consequence of its being exposed to extreme heat and moisture, fevers are of frequent occurrence. The remittent fever of hot climates arises from this cause, and is one of the most destructive diseases which we know of: it appears oftener in the remittent form, but frequently becomes continued; and

in some will assume the intermittent type. The jungle fever of the East Indies, the yellow fever of the West, also those prevailing on the hot and moist African shores appear to arise from these vegetable decompositions.

USUAL SYMPTOMS OF FEVER.

When fever is rapid in its formation, it is difficult to say which system suffers first; but when slower, the digestive system is frequently the first to indicate the disturbance that is taking place, shewn by anorexia, and often nausea; by a clammy, foul and dry condition of the mouth and fauces, also a diminished acuteness of taste. The patient complains soon of an uneasiness and weight in his head, with failure, more or less, of mental powers—the secretions are vitiated and mostly diminished in quantity; there is great susceptibility to cold; wandering pains and tremors are observed to take place in the muscular system, as well as deep seated pains which he describes as being in the bones. There is a quickened and often irregular action of the arterial system, with hurried or laborious respiration. This state soon changes; the nausea gradually subsides, giving place to thirst and a parched state of the mouth; the taste is nearly

lost ; the pain in the head becomes more acute, and frequently continues augmenting, attended by a throbbing sensation. The ideas, instead of being torpid as in the commencement, are now active, and they have frequently more or less incoherence. The susceptibility of cold no longer exists, and heat is complained of ; the blood is now determined to the surface, which is increased in heat and redness—feeling is for a time restored. The irregular, or spasmodic actions of the muscles gradually abate ; but considerable restlessness remains : the pains, for the most part moderate at first, now become aggravated ; the joints no longer feel rigid, and are less feeble. The heart and arteries cease to intermit in their actions, but become quicker and fuller than before : the heat and dryness of skin are more distressing ; respiration is performed quicker than is natural, but in a manner less hurried and irregular ; urine is now passed less frequently and its colour is generally high,—there is also great intolerance of light and noise. In the next stage, the changes appear to begin, at least are more apparent in the functions of the skin, by the perspiration, before insensible, becoming now very evident, and if the moisture of skin be considerable, the inordinate heat subsides in a great degree. The different secretions are now gradually restored, the thirst subsides, together

with the head-ache and incoherence: the powers of smelling, tasting and touching correctly are restored; the urine deposits a lateritious sediment—and, in short, the different functions of the body, by degrees, resume their wonted course. This last stage is only occasionally observed in continued fever, but always attends intermittent, and, more or less, in many cases of hectic.

A continued fever frequently subsides with a copious discharge from some other emunctory than the skin, with the less obvious and more gradual restoration of the different secretions to their natural state. The degree of excitement of course varies in different fevers: in synocha, which appears the most rapid in forming, the pulse is hard and quick; all the secretions are in a great measure suspended (except the biliary in the bilious remittent, or yellow fever of the West Indies). Frequent change of position occurs: the thirst is insatiable; the skin intolerably hot, flushed, and dry; the restlessness and pains are very great. These symptoms constitute the highest degree of excitement, and form the synocha of authors, which is rarely witnessed in this country. The heat of skin in this fever has been known to rise considerably above the natural standard.

When, however, fever is not so rapid in its formation,—when the pulse is full, instead of hard,—when one or more of the secretions are not much diminished,—when the restlessness is not so great, the thirst so inordinate, the skin so intensely hot, nor the pain so intolerable, it then answers to the description of synochus, which is the common epidemic of this country. Suppose, however, symptoms the reverse of those just mentioned take place, denoting the lowest state of excitement (to which state however, let it be remembered, those of synocha may descend), the fever is called typhus. According to the modifications which the enfeebled actions undergo, they constitute typhus gravior, gaol, hospital, putrid, camp, or ship fever, the typhus mitior, or slow nervous fever. The pulse is feeble and more accelerated than in the two former combinations; the secretions become invariably vitiated and very offensive. Perhaps the alvine excretions may be preternaturally great, or a cold clammy sweat may occur without any good resulting from it; but, on the contrary, an increase of debility. The prostration of strength is great; the muscular system becomes very much deranged, as indicated by subsultus tendinum, picking of the bed-clothes, and slight convulsions. Singultus, or spasmodic action, throwing the diaphragm downwards, will

often occur, attended by efforts to vomit—the sphincters will be found to lose their action. The thirst is more moderate, the skin paler, and its heat does not probably exceed the natural standard; or, perhaps, towards the evening it may be one or two degrees above. The restlessness is very considerable; much pain, however, is not often complained of: the anxiety is indescribable; the pupils generally dilated; the countenance has an unmeaning stare, and the patient lies in a state of coma, or low delirium. The absorbents shew that they had not been inactive, from the emaciation which takes place —the tongue has mostly a black centre, with red edges, and is hard, from the foul incrustations. These are the most usual symptoms attending fever, varying, of course, in different cases.

DELIRIUM.

There are two kinds of delirium attending fever: the one accompanied by too rapid a circulation in the vessels of the brain, and increased nervous power, being what is commonly called raving—the other appearing to depend on a directly opposite state, viz. a diminished

circulation, and want of nervous power, or low muttering delirium.

When we consider the multiplied internal sources of irritation which are present in fever, and constantly occasioning unpleasant associations to be transmitted to the brain, it can not excite surprise to find that the sensorium is frequently in a great measure insusceptible of the usual operation of external causes. Delirium has been termed a waking dream, and with great truth, for often, although delirium be present, yet, if the patient be spoken to loudly, he will immediately become conscious—here, as in a dream, the ideas are occasionally very vivid, although the judgment sleeps. In both states the most opposite and extraordinary occurrences are reconciled to the imagination; the pictures are painted strongly upon the sensorium, but the power of discrimination being lost, the truth of the panorama remains unquestioned. During delirium, those ideas which the mind has been most accustomed to dwell upon, will generally present themselves: should the patient have suffered ill-treatment from his nurse, or any friends, he will, for the most part, express his indignation in strong terms; or if he have lately lost any dear relatives, it is not

at all unusual for him to converse with them as though alive. Precisely the same thing happens in sleep, and, as a proof how strongly an internal source of irritation may act upon the brain, we have a familiar instance in the incubus, or night-mare, as it is called, which frequently arises from reposing with a full stomach. It is not at all unusual for people to converse in their sleep.

COMA.

There is a state of brain which occurs in the latter stage of fever, where there is but little (if any) consciousness of external causes; a very vacant countenance, dulness of the cornea, and more or less dilated pupil; also, irregular spasmodic actions, chiefly of the locomotive muscles, as instanced by starting and subsultus; there is frequently entire loss of power of the sphincters. The patient utters low moans, seldom articulating any one word distinctly, and scarcely any connexion of ideas can be traced: he will perhaps put out his tongue, after having been asked to do so three or four times; but his intelligence appears to remain only for the moment, as, immediately after, he will regard you with the same vacant and unintelligent eye.

The nervous system appears to be so worn out, that it has not sufficient power to retain any impression; for if there be a degree of consciousness, it is for the most part, only evident whilst the stimulus from the sound of the voice exists, as it ceases almost immediately after you have finished speaking.

These symptoms may be occasioned by pressure upon the brain; but, as they so often exist without any being evident on dissection, we must look to some other cause. I am strongly inclined to ascribe many of the phenomena occurring in the latter stage of fever, to an imperfectly oxygenated blood, and the consequent circulation of carbonated, or partly venous blood, which would occasion symptoms similar to those enumerated, and do away, in some degree, with our surprise at not finding, in many cases of post mortem examinations, marks of pressure on the brain, where symptoms denoting it had existed.

Towards the close of protracted fever, where the secretions are in a very vitiated state, whilst the lungs also are performing their office in an imperfect manner, where the air inhaled is also more or less impure, and, consequently, less stimulating, we shall find that the symptoms are

very similar to those caused by the injection of venous blood into the pulmonary veins, or systemic arteries. The symptoms, as might be expected, vary considerably in degree, according to the greater or less oxygenation of the blood. If this kind of blood be injected into the carotid arteries, so as to be transmitted directly to the brain, almost instant death follows; if into the arteries of the extremities, convulsions and subsequent paralysis ensue, with more or less pain. When the blood, from mal-formation of the heart in an infant is deprived of oxygen from want of free access to the respiratory system, its powers become languid, and irregular convulsive actions take place, or paralysis may occur; its heat is diminished, its colour bluish, and should the action of the heart at any time become hurried, either by demands made on it by the muscles, or any other cause, for a greater supply, reiterated paroxysms of insensibility are frequently the consequence; moaning, convulsions, or apoplexy, may successively arise, and probably terminate in death. I believe nearly similar effects may be caused by the circulation of bile in considerable quantity in the vessels of the brain; at least, such appeared to me the case in a late instance.

A girl, twenty-two years of age, applied at

the dispensary, for relief from a severe attack of jaundice, which she had suffered for some time: her skin, nails, and eyes, were of a deep yellow colour; tongue very much furred; her pulse was about ninety in the minute. She was ordered to take five grains of blue pill every night, and two tea-spoons full of Epsom salts every morning. Three days afterwards, in consequence of her not being so well, she was visited at home, when it was reported that the day after her admission to the dispensary, considerable incoherence in answering questions was observed, and that she remained in a very sleepy state. Sixteen ounces of blood were ordered to be drawn from the nape of the neck by cupping; a dose of calomel and jalap was directed to be taken at bed-time, and a black dose in the morning. The report of the next day stated that no evacuation from the bowels had been procured; convulsions had frequently occurred during the night; no answers could be obtained; but if spoken to loudly, would put out her tongue; pulse a hundred, and very small; a strong cathartic was immediately given. The next day, it was stated, that two hours after taking the cathartic, she had fallen into a sound sleep, which continued till four o'clock the next morning, when she awoke with screaming, and had been much convulsed ever since. No eva-

cuation had been procured; a strong cathartic enema was ordered immediately, which procured a small liquid motion; the pulse was one hundred and thirty, the pupils dilated, and the skin covered with a cold, clammy perspiration: she died at five o'clock the next morning.

On dissection, the membranes of the brain were observed to be highly tinged with bile; the dura mater was of a deep yellow colour; not the slightest effusion had taken place in the ventricles. In the chest, the only unnatural appearances were the heart and pericardium being of a deep yellow colour. The intestines were also very yellow, as were the liver, spleen, kidneys, uterus, and bladder. No obstruction was found in the biliary ducts; the small quantity of bile contained in the gall bladder was quite black; no other marks of disease were observed.

PROGNOSIS.

The most favourable symptoms in fever are the different secretions returning to their natural appearances; the preternatural muscular, or mental actions gradually subsiding; the skin,

instead of being hot and dry, becoming moist with a gentle perspiration ; also, the enjoyment of a few hours undisturbed sleep. With regard to external circumstances, the change from an impure to a pure atmosphere is much to be desired, as soon as it can be effected with safety.

The most unfavourable symptoms that can arise in fever, are spasmodic actions of the muscles, as singultus, vomiting, tremor of the tongue, convulsions, subsultus tendinum, picking of the bed clothes, hurried and imperfect action of the respiratory organs, relaxation of the sphincters allowing an involuntary discharge of the fæces and urine ; disordered state of the mental functions, dread of death, watchfulness, delirium, extreme anxiety, moaning, vitiated secretions, such as cold colliquative sweats, vomiting a fluid resembling coffee-grounds, fœtid urine and stools. Suppressed secretions are also very unfavourable, such as obstinate costiveness, ischuria, an extravasation of blood under the skin, as echymosis, or maculæ, petechiæ, &c. ; gangrenous appearances from blisters, or pressure ; blackness and hardness of the tongue; a shrunk countenance and dulness of the eye, with coldness of the extremities, are extremely unfavourable; all indicating a very low degree of vital power.

The symptoms most favourable in the early stage of synochus are, a copious flow of perspiration, and consequent diminution of the heat of skin ; a subsidence of thirst, and the absence of delirium.

Those promising a favourable termination in typhus are, an inclination for food ; the spontaneous occurrence of a gentle diarrhœa ; a lateritious sediment appearing in the urine ; a gentle perspiration ; the tongue becoming moist ; eruptions about the mouth : an abscess occurring in some part of the body has to all appearance frequently proved favourable ; also, an increased strength of pulse, and the fœculent evacuations becoming less offensive. Were I to speak from my own observation, I should say that one of the most favourable symptoms, and one more to be depended on than any other is, perhaps, after several restless nights, the patient obtaining, without opiates, a few hours of profound and refreshing sleep. Those who have not watched the crisis of fever would scarcely credit the change in the patient's appearance these few hours of repose have produced ; if, at the same time the secretions improve, and a desire for food be expressed, the most confident expectations of a recovery may be entertained, provided external circumstances are also favourable.

TREATMENT.

It would be well could the treatment of fever be reduced to mathematical rules; yet such varieties of constitutions, altering more or less the character of the disease, come under our care, that not all the mathematical genius of both universities, combined with the experience of the longest life, can ever be expected to accomplish so systematical a plan.

We must study well the natural and healthy actions of the human body, as variously modified in different individuals, and when these are disturbed, endeavour to restore them to their usual state: this of course is the object of our treatment in every disease. In fever we must bear in mind that the natural balance of the circulation is interrupted, that consequently irregular determinations of blood, frequently occasioning local inflammation, will take place; our aim must therefore be to prevent as much as possible the injurious effect of these determinations upon different organs, and the more important the part affected, the more decided must be the measures adopted.

Attention should be particularly directed to

the brain, not only as it is one of the most important organs, but a reference to dissections will shew that it is also more likely to suffer (in this country) than any other part. The organs next claiming our especial care are the lungs: they should be watched most attentively, for considerable mischief may, and will very frequently take place in them, with little, and occasionally no pain in the chest being complained of; a continued cough should therefore excite our attention to them, and the more so when there is reason to suspect a predisposition to pulmonary disease. It will be right to inquire whether the patient have been subject to cough, or pain in his chest; observing also the formation of the chest, which may in some measure assist us: these inquiries are, of course, only made with a view of putting us the more on our guard, as inflammation of the lungs frequently occurs during fever, although no particular predisposition to it had existed.

The liver is the organ which next presents itself as predisposed to inflammation, but more in intermittent and remittent, than continued fever: although there be no pain in the hepatic region, yet, should the functions of the liver continue long disordered, it will be better to examine it by pressure, and give it considerable attention; for it will frequently become much enlarged during

fever without there being sufficient pain, or uneasiness, to call the patient's attention to it. Considerable enlargement of the spleen may take place in the same way; this organ also should therefore be observed.

It must be remembered that fevers have a tendency to last for a certain time, and that very often all our efforts will not prevent them from running their course; also, that a state of debility must be expected to follow the preternatural excitement. We shall act wisely therefore to avoid spilling more blood than is absolutely necessary during the stage of excitement, and to use every means which can assist in lowering the arterial action besides blood-letting. By these means, such as keeping up a gentle nausea, the cold affusion (if admissible) the use of emetic tartar, digitalis, colchicum, &c. we shall probably succeed in our object during the early stage, with perhaps the loss of half the quantity of blood that would otherwise be necessary, if these measures were not adopted. In the latter stage, particularly in a protracted fever assuming a low character, there will be good reason to rejoice that no more blood was taken than absolute necessity required; here the nervous system appears almost worn out, and stimulants are the chief means to be relied on

in keeping up the powers of life, and thus assisting nature in struggling through the disease. If we have been sparing in blood-letting, how much better chance of success will stimuli have, for there will then be something for them to act upon. Perhaps the student will understand me better by supposing a piece of machinery whose action depends on several springs; should this action be quicker than required, he will readily imagine that by taking away some of the springs it will be diminished; but, would it not be better for him, instead of removing the springs, to stop their action by a counteracting force? for then, if an increase of such action were required, he need only remove the opposing force, and the action would then become restored; whereas had the springs been entirely removed, they must have been replaced before he could have accomplished his object. Blood-letting he may therefore consider in the same light as taking away these springs, but nausea and other means as employing more a controlling than a removing power. This must be understood as merely an illustration, recollecting at the same time the vast difference between the actions of the living body, and those of a piece of machinery.

All external causes of irritation, not unavoid-

able, should be removed, and the mind kept as tranquil as possible; the attendants should appear cheerful, and the patient be encouraged to look forward to a favourable result of his illness. In whatever danger a patient may appear to us in fever, I do not think we are justified in telling him of it, however urged by him to do so, for the depression which this information may occasion, will probably deprive him of, or at least diminish what little nervous power remained, and thus take away the only means for his recovery. Nor ought we ourselves to despair whilst any powers of life are remaining—it is really surprising to see from what a state patients with fever do get well.

A degree of hope, even in the worst cases, should be encouraged, as it is necessary that the most unremitting attention should be paid to the sufferer: how frequently do nurses say, "Oh! the doctor has given the patient up—do not disturb him any more"—thus depriving him of the only chance he has of surviving, instead of administering stimuli constantly, and endeavouring to rouse the languid powers of life by every means that can be had recourse to. I do not believe that any man, whatever may be his experience, in nine cases out of ten of low fever, would be able (unless he possess the

power of witchcraft) to say positively twenty-four hours before death whether a patient will live or die; he may guess certainly, and occasionally his prognostication may happen to be right—but nothing further: let us not therefore pretend to wisdom which we have not, and especially when the patient may be injured by our premature judgment. In cases where it is of considerable consequence that the patient should make a will, it may prove absolutely necessary to inform him in some degree of his danger, but even in this case it should be done in as guarded a manner as possible.

The situation of life in which patients are placed, their constitutions and general habits must all be particularly considered, as they will of course influence our treatment. The poorer class of people cannot be expected, generally speaking, to bear the loss of so much blood as those accustomed to a more generous diet, although some very plethoric subjects are found amongst them; for example, men who work in brew-houses are frequently of this description; they are in the habit of taking malt liquors very freely, and often bear the loss of blood better than their masters, and it will perhaps be necessary to take more from them.

Besides, considering the constitutions, habits, &c. of patients, we must study well the sympathies of different organs, to enable us the better to distinguish when actual disease is going on in any part, and when it is suffering merely from an intimate nervous connexion with another organ positively in a state of disease. As familiar instances of sympathy, I may mention the connexion of the mammæ with the uterus in females; the pain which stone in the bladder occasions at the end of the penis; the pain in the knee experienced from disease of the hip joint, &c. A practical experience, however, will alone, and that not in every case, enable us to ascertain when an organ is positively diseased in fever, and the most acute observer will not always be able to detect, amidst the general excitement and pain, the actual organic mischief that is going on; nor will his eyes be opened in many cases after the excitement ceases; for then the powers of life are frequently so low, that there will be perhaps little or no pain in the part affected. If we are called to patients quite at the commencement of fever, and they live in large towns, they should be immediately removed to purer air (provided it be practicable) a little way in the country—two or three miles will probably be sufficient; they will then not only have a much better chance of recovery themselves, but be less likely to infect others.

EXAMPLE I.

SUPPOSE we are called to a patient in a respectable situation in life, accustomed to good living, and enjoying generally a good state of health ;—let us further suppose that there is no reason to regard his fever as epidemic, or as having arisen from contagion ;—he complains of considerable pain in the head, his countenance is flushed and anxious, pulse hard and quick, besides the symptoms usually attending fever. In this case no doubt can be entertained as to the propriety of general bleeding, which should immediately be had recourse to, until the patient complains of feeling faint, or the arterial action be considerably reduced. The next object in view is to remove the contents of the stomach and bowels, knowing that the different secretions acting as solvents of the food, and assisting in its digestion are now interrupted, or suppressed; and, consequently, that the contents of the alimentary canal must act as a source of additional irritation to that which already exists. An emetic should therefore be given, and, if the arterial action be strong, one which tolerably reduces the powers of the system ought to be preferred :—perhaps, to an adult, either of

the following will be as good as any for this purpose :

℞. Antim. tart. gr. ij.
Sacch. alb. ℈j. M.

or,

℞. Antim. tartar. gr. i.
Pulv. ipecac. gr. xv. M.

They should be given in a wine-glass full of warm water ; and, when beginning to operate, the patient should also be desired to drink freely of warm water.

As soon as the stomach becomes quiet, a purgative should be administered.

1.

℞. Hydrarg. submur. gr. vj.
Pulv. jalapæ, gr. x.
Pulv. zinjib. gr. ij. M.

2.

℞. Hydrarg. submur. gr. iv.
Pulv. rhei. gr. viij.
—— zinjib. gr. ij. M.

3.

℞. Pulv. antimon. P. L. gr. v.
Hydrarg. submur. gr. iv. M.

Either of the two first powders may be given if the bowels have not been too much purged: if this be the case, the last will be preferable, and should be taken at bed-time, mixed in a little jelly. The powders may be made into pills, if preferred by the patient.

We must now endeavour to determine to the skin, and keep up a gentle action of the bowels; in short, to keep down the arterial action as much as circumstances may require; either of the following mixtures will answer our purpose:

1.

℞. Potassæ nitrat. ʒj.
Træ. digit. fʒj.
Vin. colchici fʒij.
Aq. distillat. q. s. fʒviij. M.
Sumat cochl. iij. magna tertia vel quarta quaque hora.

2.

℞. Sulphat. magnesiæ ℥j.
Antim. tart. gr. ij.
Aq. distillat. q. s. fʒviij. M.
Sumat. cochl. iij. magna tertia vel quarta quaque hora.

3.

℞. Magnes. sulphat. ℥ss.
Potassæ carbon. ʒiss.
Succi limon. q. s. (ad saturandum)
Vini antim. tart. fʒj.
Aq. distillat. q. s. fʒviij. M.
Sumat cochl. iij. magna tertia quaquæ hora.

If the symptoms of excitement run high, the second mixture will be the best; if not, either of the others: the quantity of magnes. sulphat. or antim. tart. will of course be varied as the state of the bowels, or nausea may indicate. A little syrup may be added, should the practitioner think it an improvement: he will not, however, be able to make them very palatable; but let him be guided by his taste.

On our next visit, should the pain in the head be still severe, and the pulse continue quick and hard, more blood may be taken from the arm, the quantity being regulated according to its effect. If we have any reason to suppose that general bleeding will not be very well borne, the blood may be taken by the cupping-glasses applied to the nape of the neck: the same mixture as before may be continued, unless circumstances should require a variation—the antimonial powder, with a less quantity of calomel, might perhaps be given again with advantage. On the following day, if the symptoms of ex-

citement and pain in the head continue, a few leeches may be applied to the temples; and, provided the heat of skin remain steadily above the natural standard, and no pain, except in the head and back be complained of, the cold affusion may be used, and generally with great advantage: but should the symptoms lead us to suspect either pulmonic, intestinal, hepatic, or, in fact, any inflammation of importance (except that of the brain, which experience has shewn the cold affusion does not increase), it will be better not to use it. Where no local inflammation below the brain had existed, and under the circumstances just mentioned as indicating its use, the cold affusion has generally afforded great relief: the strength of the patient, in many cases, has been immediately increased; the heat of skin, and thirst, have greatly subsided; and a refreshing sleep has followed. If, however, any visceral inflammation in the chest or abdomen should be present, it would not be justifiable to use the cold affusion, for the sudden retrocession of blood from the surface would of course occasion an increased determination of blood to the inflamed parts; so that there would be good reason to fear the reaction which followed might add to the local mischief. In cases where the cold affusion is advisable, it may be used five or six times during the day, should

the heat of skin and general restlessness require it thus often.

If local inflammation attend fever, and general bleeding be not desirable, the part affected may be cupped, or leeched, and afterwards blistered. As the treatment of low fever will be spoken of presently, let us suppose that the symptoms of excitement have gradually subsided under the treatment just mentioned, that is, the different secretions are returning to their natural state, an inclination for food is expressed, and the restlessness has much diminished ;—the best means of favouring our patient's recovery would then be to assist nature as much as possible in restoring the different secretions ; for instance, if that of bile be deficient, or of an unhealthy colour, small doses of calomel, or blue pill, combined with a little rhubarb and ipecacuanha, or antimonial powder, as circumstances may require, will be useful. The stomach may be assisted in performing its office by some light bitter, combined with an aromatic, or mineral acid ; if the tongue be clean and moist, the cinchona, with the addition of an acid, either the sulphuric, or muriatic, may be given; but should the tongue continue more or less furred, shewing that some degree of irritation still exists, a lighter bitter, with the sulphuric acid, will be

preferable,—such as the infusion of gentian, colomba, quassia, or orange peel. Above all, we must watch the effect of the aliment which is given, and should it prove irritating, remove it as quickly as possible by a gentle emetic and purgative. As soon as the patient can bear removal, change of air, particularly if he reside in town, will hasten his recovery more than any other means that can be employed.

EXAMPLE II.

Let us for another example imagine the same patient having the symptoms just described; but instead of his fever arising from cold, fatigue, or other causes, we have every reason to conclude that it is epidemic, or proceeding from contagion,—what difference would this make in the treatment? If called as early as in the first case, we may commence with the same measures, that is, the bleeding, followed by an emetic and cathartic; but the next day, instead of general bleeding, it will be better to rely upon cupping, or leeching, unless active inflammation be going on in the brain, or other organ of considerable importance, which may force us to adopt both general and local bleeding. One of the mixtures ordered in the first case

should be prescribed, and here, those remedies which assist in reducing arterial action are very valuable. Small doses of calomel, with James's powder, or the pulvis antimonialis P. L., may be given at bedtime. The same rules as before must guide us as to using the cold affusion ; in short, every means which can prevent the necessity of employing the lancet should be had recourse to, as we must be as well prepared as possible to meet a typhoid stage, knowing that fevers arising from contagion have a tendency to assume a low character. In this case, suppose that the treatment adopted has appeared to reduce the general excitement ; but, instead of the pulse becoming softer and less frequent, it is equally quick, although diminished in force, and of a wiry, or thrilling character—that the secretions, instead of returning to a more healthy state, become more vitiated, the tongue is now covered with a brown fur in its centre, and perhaps red around its edges ; the general restlessness is changed to a listless state, the fœculent evacuations are fœtid and slimy ; the mental actions, instead of being more excited, are now more languid : here then we have typhoid symptoms, and when once these are established, I much question whether general bleeding can be admissible, although inflammation may appear almost imperatively to demand it, and even

local bleeding must be used sparingly ; but it is, perhaps, one of the most difficult points in practice to decide as to the propriety of bleeding when a patient is threatened with extreme debility on the one hand, and on the other with severe local inflammation ;—it is one that great experience and observation can alone decide. In this stage either of the following mixtures may be given, varied according to circumstances.

℞. Acid. muriat. f ʒss.
Aq. distillat. f ℥viij. M.
Sumat cochl. duo magna 2dis. vel 3tiis. horis.

℞. Sp. æther. comp. f ʒij.
Liq. ammon. acet.
Mist. camph. ā ā. f ℥ij.
Aq. distillat. q. s. f ℥viij. M.
Sumat cochlearia tria magna tertia quaque hora.

℞. Potassæ carbon. ʒiss.
Succi limon. q. s. (ad saturandum).
Sp. æther nit. f ʒij.
Aquæ distillat. q. s. f ℥viij. M.
Capiat cochl. iij. magna tertia quaque hora.

℞ Pulv. antim. P.L. gr. iij.
Hydrarg. submur. gr. ss.
Potassæ nitratis gr. vj. M.
Fiat pulvis tertia quaque hora sumendus.

If the skin be hot and dry, one of the powders should be given in a little barley water between each dose of the saline mixture; should there be also much irritability of stomach, it may require a little alteration in the treatment.

Irritability of the stomach may be either symptomatic, that is, depending on the affection of the brain, skin, or bowels; or it may arise from disease of the stomach itself—if it appear to depend on the condition of the skin, we must endeavour to produce a healthy secretion, as well as to restore its proper temperature—if on the state of brain, to employ those means which are most likely to bring back its vessels to their usual action—if on the state of the bowels, by checking their secretion, should it be inordinate, and *vice versa*. If depending on the state of the stomach itself, a few leeches applied to the scrobiculus cordis, and afterwards a blister will occasionally afford great relief, and a pledget of lint, dipped in camphorated spirit and brandy, applied to the same part has been used with success. Small doses of tincture of opium, with the sa-

line mixture in a state of effervescence, will sometimes considerably allay the irritation.

Instead however of the patient's getting better under this treatment, his symptoms become more unfavourable, the tongue, which was before brown, is now covered with a black crust; he lies in a comatose state, frequently uttering low moans, or talking to himself; his fæces and urine pass involuntarily: if spoken to, he appears scarcely (if at all) conscious of it: irregular spasmodic actions of the muscles take place; he catches at the bed-clothes, or any thing that may chance to be in his way; subsultus tendinum may also be present. With these symptoms, stimulants are the chief things to be relied on, and we must endeavour by every means in our power to rouse the energies of the system. Wine or brandy should be given frequently; æther, the volatile alkali, or musk, mixed with camphor julep, may be prescribed; also small doses of tincture of opium, which act as a stimulant. Blisters are good stimulants, and may be applied in succession from the nape of the neck to the arms, chest, abdomen, and inferior extremities; but such is the low state of vascular action and irritability on the surface, that very often their only effect will be to excite a little redness on the skin, and sometimes no

marks whatever of their having been applied will be produced. I have not mentioned the application of a blister to the scalp here, as it is my intention to speak of the effect of blisters separately, when the state of brain in which a blister applied to the head is likely to be useful will be more particularly pointed out. Electricity, or galvanism, if to be procured, may be tried with a view to excite the heart's action, or artificial respiration, the inhalation of oxygen gas, &c.

In cases of extreme debility, where but little of any thing can be given, brandy will be preferable to wine; a tea-spoonful or two should be poured down the throat very frequently and its effect watched; but patients in a very low state will generally bear a large quantity without its producing an intoxicating effect, for the nervous system is here in a very insusceptible condition, and therefore not easily excited. Every thing in this state depends on attention: as much nourishment as the patient can bear must be given, notwithstanding our feeling persuaded that local inflammation is going on; this must be disregarded, for if we do not stimulate the patient, he will in all probability sink from exhaustion; should he revive considerably, then the local disease will of course influence our treatment.

EXAMPLE III.

The frequent occurrence of fever, in large cities, cannot occasion surprise amongst those who are in the habit of visiting the poorer class of people; and it is with these chiefly that typhus arises. The poor are most subject to the exciting causes, and also, to those predisposing to this fever—What is the state of the atmosphere they generally breathe? What their various occupations during the day? A great number must necessarily be employed in the various manufactories of the different deleterious metals, such as lead, arsenic, copper, mercury, &c.; but it is not merely those engaged in these occupations who are exposed to the causes favouring typhoid action: look at the sedentary habits of the poor mechanic, who is perhaps, not only confined all day, but, anxious to increase the comforts of his family, is induced to work till eight, or nine o'clock in the evening; the room probably where he is employed is lighted with gas; a portion of oxygen must be consumed in the combustion, while carbonic acid is given off.

When we consider the number that exist in this contaminated and debilitating atmosphere, breathing, as it were, successively the same air,

that which is thrown off being again inhaled, and with but little change in its nature; also, the depressing power of carbonic acid, it cannot fail to excite our admiration of the self-preservative power of nature, to find that any should maintain even a tolerable state of health in such situations. Can we wonder at the frequency of pulmonic affections amongst these men? If there be the slightest predisposition to pulmonary disease, however latent before, such an atmosphere will not long allow it to lie dormant. I may here mention (what most practitioners must have observed), that the greater number of phthisical patients are tailors, whose habits of life appear peculiarly adapted to excite, and in some degree predispose to phthisical action, not only from the air they breathe, but also from the situation of the chest, which is constantly bent forwards from the nature of their occupation. This is, however, digressing from the object of our inquiry, which is fever. Having therefore taken a cursory view of the employment of the poor during the day, let us follow them to their homes, and shall we find their condition much amended when there? I fear not: they have perhaps but one small room, into which a bed, wife, and half a dozen children are crammed; here they eat, drink, sleep, and cook their food; what then must be the state of

its atmosphere, and especially in winter, when theg enial breath of heaven is excluded as much as possible, for every hole through which a little fresh air might possibly creep is stopped to keep the room warm? Nor can we be surprised at this, recollecting that these poor people cannot afford to keep a good fire, from the expense of fuel, and also that their bodies have not the same power of resisting cold as those of the better fed. What a fine nursery is this for the development of scrofulous action! Added to these inconveniences, will probably be that of scanty clothing.

In what manner then does an attack of fever amongst those whose habits have just been mentioned appear to be brought on, and how are its symptoms developed? To answer this question, let us suppose a person liable to the inconveniences above alluded to; how long an exposure to these may be borne with impunity, will depend on the constitution of the exposed, that is, the power inherent in the body of resisting those causes tending to weaken it. A constant subjection to impure air must be expected to diminish, more or less, the healthy and invigorating quality of the blood; for instead of the lungs receiving a proper quantity of fresh oxygen for the supply of the system, these or-

gans are filled successively with almost the same air, or very little altered, from the confined state of an apartment but badly ventilated, and perhaps impregnated with different noxious odours.

As the various secretions are derived from the blood, if this fluid be impure, it necessarily follows that the different secretions will sooner or later become imperfect. I do not mean to assert that the secerning vessels have not an inherent power of their own, which may enable them for a time to separate their usual fluids from the blood, notwithstanding its being impure; and, in all probability, considering the wise provisions of nature, this may in some measure be the case. Allowing therefore the vessels for a time to separate their usual secretions, yet should the blood continue impure, or become of a more unhealthy nature, we cannot rationally suppose that the different secretions can long preserve their purity. It has been proved, also, that the process of secretion is dependant on the healthy state of the nervous functions: as the nerves are stimulated to a proper performance of their offices by the blood, we must not be surprised at the phenomena which take place in this most important system.

When fever occurs amongst the poorer class of people, the digestive organs, for the most part, will first shew the disturbance which is taking place, indicated by anorexia, nausea, and occasionally vomiting; by a clammy, foul and dry condition of the mouth and fauces; also, a diminished acuteness of taste, from the papillæ being covered with an unhealthy secretion. The fæcal evacuations will become very offensive and imperfectly coloured with bile; a great degree of lassitude is experienced; the countenance exhibits a pale and very anxious appearance; the pulse is generally quick and wiry, being very seldom full; a dull heavy pain in the head is also felt. The excitement which occurs here is very different to that which takes place in fever attacking a healthy subject; there are irregular distributions of blood, with considerable irritability, and very often no general excitement is present; the low state of the energies of life is frequently such that the use of the lancet under these circumstances, even in the very earliest stage, must be had recourse to with caution, and in most cases, bleeding cannot safely be used after the second, or certainly third day from the commencement of the fever.

In the greater number of these cases, general bleeding will not be so advisable as local, and

even this must be used sparingly—if the pain in the head be at first very severe, eight, or twelve ounces of blood may be taken from the nape of the neck by the cupping glasses; or a few leeches may be applied to the forehead and temples; the head should be shaved, and an evaporating lotion kept constantly upon it; the feet and legs must be kept warm; our great object being to diminish the action of the vessels of the brain, without lessening more than is absolutely necessary the actual powers of the system. We shall here find the emetic tartar mixture, the digitalis, &c. of great use. Blisters are also highly useful in low local inflammations; they should not however be applied to the scalp itself till quite in the latter stage (see Observations on the Use of Blisters). If the heat of skin be steadily above the natural standard, and no objection exist to the use of the cold affusion, it may be had recourse to; but it will not be safe to use it in the majority of these cases, for the excitement is so irregular, and at times so low, that we cannot depend on its continuance for any length of time; indeed in nineteen cases out of twenty it cannot be employed, even in the very early stage; the body however may be sponged with vinegar and water, either warm or cold, as the state of skin may require. As soon as the excitement has passed, which does not generally last more than

three or four days, if so long, and in many cases little or none can be observed, we must endeavour to support strength as much as possible; at the same time, to do all in our power to restore the secretions to a more healthy state, as well as guard the different organs from the irregular determinations of blood. Let me again most strongly impress on the mind of the student the absolute necessity of supporting the patient's strength by giving stimuli in spite of local inflammation; indeed a practical experience would lead me to believe that instead of increasing these local inflammations, or rather congestions which take place under typhoid action, that we rather diminish them by stimuli. May we not be supposed, by increasing the nervous energy and actions of the vascular system, to establish a more general, as well as increased action; and consequently, by restoring the blood in some measure to its usual channels, divert the current a little from its preternatural accumulation in any particular part? However imperfect may be the explanation, such has appeared to me the effect in the low state just alluded to. I have the more insisted on the absolute necessity of avoiding bleeding, if possible, amongst the poorer class of people with typhus, and especially if residing in large cities (in the country this extreme caution will not be required) because ex-

perience has taught me how very slowly the poor recover from this fever where bleeding has been much adopted, and in many cases it has appeared entirely to take away what chance of recovery they had; we should also bear in mind that other diseases are frequently brought on by reducing too much an already reduced patient.

Observations on Particular Remedies.

EMETICS.

These are extremely useful, when given in a very early stage of fever, or during its formation; they have occasionally appeared to put a stop to the morbid actions altogether. If there be much vascular excitement in the brain, it will be the safest plan to bleed or cup before their exhibition, as the action of vomiting must necessarily produce considerable determination of blood to the head. If an emetic be required when much debility exists, the zinci sulphas will be preferable to the emetic tartar, as the first does not appear to produce so debilitating an effect on the stomach as the last. Ipecacuanha is also mild in its operation, and may be given in doses of ten grains to a scruple, or half a drachm. The virtues of emetic tartar as a febrifuge, when given

in nauseating doses, are now so well known and appreciated, that little need be said on the subject: the dose must be varied for different individuals, a gentle nausea being, for the most part, the effect we wish to induce. As the cupri sulphas is seldom used as an emetic in fever, it requires no observation here.

CATHARTICS

Are useful in every stage of fever: their exhibition must of course be left to the judgment of the practitioner, both as to selection and dose. Injections per anum are likewise of great service in assisting the operation of purgatives given by the mouth, and also, more particularly, in those cases where the stomach is too irritable to bear medicine.

CALOMEL,

During the early stage of fever is chiefly employed as a cathartic, but in the latter stage it becomes a remedy of great value in assisting us to restore the different secretions to a healthy state. It is more particularly useful where congestions have taken place in the liver, or spleen, and is

given in small doses, its alterative, and not its cathartic effects being called for.

COLCHICUM.

No medicine introduced of late years has perhaps been more strongly recommended than the colchicum autumnale, and unlike most very highly extolled remedies, experience (instead of showing that, like the philosopher's stone, its virtues were beyond discovery) has proved it to be a valuable addition to our curative powers. It is most generally given in gout and rheumatism: I can however confidently recommend it as a powerful means of controlling arterial action, and have found it useful in fever; it has appeared to relieve sooner than most medicines the general pains so much complained of in the early stage of the disease. Where colchicum affords the greatest relief, it generally acts more or less freely on the bowels, which has induced me for the most part to combine it either with the magnesiæ sulphas, or infusum sennæ, and occasionally with both—its diaphoretic powers appear also very favourable. Whether the combination of colchicum with an aperient may, or may not increase its powers, experience must decide. In the inflammatory stage of fever, I

have given twenty drops of the Vinum colchici every four hours in a solution of magnesiæ sulphas, or with the infusum sennæ; whenever it excited too much nausea, or acted too freely on the bowels, the dose was reduced. If given in smaller quantity, it frequently acts as a diuretic. Besides its other virtues, the colchicum appears to possess a powerful sedative quality.

DIGITALIS.

No remedy has more engaged the attention of different authors than digitalis, some attributing to it almost specific virtues, whilst others have regarded it as of little utility. What are the properties of this medicine? that it exercises a powerful influence over the heart's action can scarcely be doubted, for if given in large doses it causes an intermission in the pulse, and occasionally a total cessation of its beat. Like all remedies of considerable power, it requires caution in its exhibition, and it is doubtful to what extent we are justified in giving it; of course, as in every other instance, we must be guided by its effects, more than by the quantity administered. When there is a full and hard, as well as quick pulse, it will be much safer to rely on emetic tartar as an auxiliary to blood-

letting than digitalis; for to obtain the end in view larger doses would generally be required than could be justified by prudence. When however the pulse is small, quick and wiry, indicating rather an irritable than strong action of the heart, then the effects of the foxglove in diminishing arterial action may be experienced with safety to the patient, as smaller doses will generally answer our purpose. If we can rely upon procuring the leaves good, and that they have been dried with great care, the infusion will be the most certain way of obtaining its virtues; or the powder, if preferred, may be given. The tincture however is the most useful preparation, and more used than any other, a small quantity answering our purpose, and it is therefore conveniently employed in mixtures with other medicines.

BLISTERS.

The application of blisters in the inflammatory stage of fever will seldom be found to answer any good intent, for the harm they occasion, by adding to the general irritation, will, in the majority of instances, more than counterbalance their good effects. When the excitement has in some degree abated, and we have more to con-

tend with local than general disturbance, blisters will be very useful. They should never be applied to the scalp whilst there is any reason to apprehend that increased action is going on in the vessels of the brain, as they have frequently been found to add to it. When however there is a general loss of power, and the patient lies in a comatose state, a blister applied to the shorn scalp has sometimes appeared to excite the brain to a more healthy exercise of its powers. If any doubt be entertained as to the state of brain, the nape of the neck should be blistered in preference to the scalp. Perpetual blisters are of considerable service in counteracting the effects of the more chronic local actions occurring in fever, especially towards its termination, for a disposition in particular vessels to diseased action will in many cases continue for some time.

In these cases of chronic disease, the emetic tartar ointment may be used with great benefit, besides, it possesses the advantage of not being so painful to the patient as a perpetual blister; and therefore not creating so much uneasiness in his mind. Sinapisms are applied to the feet and legs in the latter stage of fever. Setons may also be used occasionally where these chronic inflammations continue for any length of time.

OPIUM

Is rarely employed during the stage of excitement; but when this has passed, and when perhaps a state of great nervous irritability is present, its sedative properties may be used with advantage—recollecting, of course, to obviate its constipating effects by purgatives, if necessary. In small doses, in combination with wine, its stimulant qualities are also occasionally very beneficial. When employing this drug as a sedative, in fever, if the stomach be not very irritable, it will be better to give the pulvis ipecacuanhæ compositus; as in this form it appears more disposed to excite a gentle action on the skin, and not so likely to affect the head: it should be given at bed-time, when intended to produce sleep, for obvious reasons. When used as a stimulant, the tincture is to be preferred.

WINE.

If diarrhœa, or profuse perspiration, be present, good old Port, as possessing a restringent property, should be given; otherwise sherry or Madeira, if they can be procured good, will be preferable. We may begin by giving about a

table spoonful every hour or two, with perhaps two or three drops of tincture of opium. There are cases where a patient may be so much reduced, as to be able only to swallow but a small quantity of any thing: here brandy, as being a more powerful stimulant than wine, should be preferred: the quantity given must be regulated by its effects; for these will vary so much in different cases, that it is absolutely impossible to give any positive rules for its exhibition—our judgment can alone guide us.

MANAGEMENT OF PATIENTS, AS REGARDS THE NURSE, REGULATION OF THE DIET, &c.

A GOOD temper and active disposition are absolutely necessary qualities in a nurse; her dress should be particularly cleanly; her expressions before patients must be extremely guarded—and, however great their danger, she must avoid, as much as possible, any appearance of dejection: on the contrary, her manner should be cheerful, and her constant study be to anticipate every wish of the invalid that may be indulged with propriety. Let her especially bear in mind, that a patient watches most anxiously the expression of the countenances of those around

him, endeavouring to learn from their looks what is thought of him by his medical attendant.

The nurse should be instructed to keep the patient's mouth as clean and moist as possible: the first thing in the morning she must remove, as much as she can, the foul incrustations from the tongue and teeth; also frequently persuade the patient to wash his mouth with an acid gargle: the relief experienced from the removal of these incrustations will more than compensate for the fatigue occasioned by it. The linen should be kept very clean, and the patient's body-linen should be changed at least once every day, and sheets as often as required:—it is a mistaken, as well as injurious practice, not to change the linen for fear of giving cold—however, it would be better even to run this risk, rather than allow the patient to wear dirty linen, not only as regards his own comfort, but also his liability to infect others.

There are many little attentions which a good nurse will constantly pay to those under her care, and thus add greatly to their comfort; such as smoothing and adjusting the pillow, &c. Good sense will of course point out the propriety of removing the evacuations from the room

immediately; they should be invariably preserved for the inspection of the medical attendant, but never allowed to remain in the patient's room. A nurse should be an intelligent woman, for it is a great object to amuse the minds of invalids as much as possible, in order to prevent them from dwelling upon their own danger, and a good nurse will constantly have some little anecdote for this purpose: doleful tales must be avoided, and the whole host of blue devils kicked out of the sick room whenever they make their appearance.

With regard to the management of diet in fever, the duty of the nurse is very simple, it being only strictly to follow the advice of the medical attendant, and here implicit obedience is her greatest virtue, and one that but few possess. Nurses are but too apt to fancy themselves better judges of diet than the medical attendant, and will often throw out hints (if they do not speak freely) that the patient will sink if his strength be not supported; they will perhaps mention instances in which the doctor had ordered nothing but a little gruel, but where they gave strong broths and other good, nourishing things, and the patients, of course, all recovered rapidly, in spite of the starving doctor. People in general, have an idea that medical men

are too fond of starvation, consequently they will frequently be guided considerably by the nurse, with regard to what nourishment they are to give; besides, the nurse will have another advantage, as what she recommends has generally the greater shew of reason to the friends of the invalid, for good strong broths and beef tea appear certainly more strengthening than water gruel or barley water, and as the patient is in a very weak state, we can not be much surprised at the anxious friends of the sick often giving a preference to the advice of the nurse. It will be well therefore to explain, both to the friends and to the nurse, that our reason for not giving broth, beef tea, &c., is, that we are fearful of animal food occasioning too much excitement.

During the stage of excitement, no animal food of any kind should be allowed; the patient may drink freely of gruel, barley-water, toast and water, and provided circumstances do not contraindicate the use of an acid, the barley-water may be acidulated by a little cream of tartar, or lemonade may be given; water rendered agreeably acid by the addition of tamarind juice is a very grateful beverage. The dryness of the mouth and fauces is mostly very troublesome, and patients will be constantly asking for something to moisten their mouths; an orange will

be as good as any thing for this purpose. People get tired of any one beverage; it should therefore be varied as much as possible; there can be no objection to a little weak tea being allowed; black will be preferable to green. From half a drachm to a drachm of muriatic acid may be added to a quart of barley water; it is a very good febrifuge, and has been strongly recommended as an antiseptic; we may therefore give it in preference to any other beverage, when the fœculent evacuations are very offensive.

When the excitement has subsided, should other symptoms be favourable, arrow-root, tapioca, sago, sea-kale, mashed turnip, or asparagus, if in season, may be allowed, and should they agree, and the patient go on improving, a little veal, chicken, or mutton broth, and beef tea may be given: of these, veal broth is, perhaps, the least stimulating, and should be chosen, in preference to the others, when circumstances require considerable caution in the use of animal food. When we have reason to suppose from the state of the stomach that it will bear solid food, fish, as being the least stimulating, should be selected at first, afterwards poultry, or game, jellies, &c. In typhus, the patient will frequently be so low that he will take but little of any thing; what is given him

must therefore be as nutricious as the stomach will bear; strong broth, beef tea and good thick arrow-root should be administered very frequently. If the prostration of strength be great, and the stomach at the same time very irritable, strong injections of beef tea, mutton broth, or arrow-root should be administered every hour or two, till the stomach becomes quieter.

There is a state in fever over which medicine has a very limited influence, for in it but little of any thing can be administered; we must here give a small quantity of wine or brandy, and good broths as often as we can (being of course attentive to their effect) and not run the risk of nauseating the stomach by medicine. It must not be supposed that, because we are not giving physic, that we are doing nothing; let us wait patiently and be content with endeavouring to support life for a time, and take advantage of the first favorable opportunity for introducing medicine should the powers of the constitution recover in a certain degree.

The friends of the sick cannot be too particularly cautioned against giving solid food before the stomach has recovered sufficient power to digest it. I am aware there will be considerable difficulty in enforcing this point; yet,

as it is of the greatest importance, it cannot be insisted on too strongly, for, how frequently do relapses occur solely from this imprudent practice. The worthy people of England certainly, in some measure, deserve the character they have obtained on the Continent, of being good beef-eaters, and this inclination for substantial fare is too often shewn at the expence of their sick. No sooner has a patient expressed an inclination for food, than his anxious friends, frequently in spite of all we can say to the contrary, will give him, perhaps, a beef steak or mutton chop, as being the most nutritious things they can think of: they might, in fact, with as great a show of reason give him the grid-iron, because iron is a tonic, as the chops and steaks because they are nutritious. Let them only consider for a moment the state of the stomach into which they are putting such solid food, and how widely different it is to that of health, when that good old fare of England, roast beef and plum pudding, may have fair play. In fever, the different secretions are in a great measure suppressed, and consequently, that of gastric juice; besides, the stomach is in a very weak state, having perhaps for some time had nothing but gruel, or weak broths, which do not require much power for their digestion, when all on a sudden it is astonished by a beef steak, or mutton

chop; now, putting the astonishment out of the question, what must be the effect? The solid food will of course act as a strong cause of irritation; nor can we be surprised at an immediate return of the fever, and probably delirium, if we recollect the irritable state of the stomach. Its effect on this organ however is not all, for, meeting with but little gastric juice, it must of necessity pass but imperfectly digested into the intestines; here again there is but a small quantity of intestinal secretion, so that, it in fact irritates the whole canal, and probably will make its exit in a diarrhœa, or perhaps require purgatives for its removal. This is not an aggravated description, as I have frequently witnessed the effects just described, arising from a too early exhibition of solid animal food.

Notwithstanding all that can be said on the teatment of Fever, much must be left to the discrimination of the practitioner. I have endeavoured to give the student such a view of fever, as he may understand, and as will best assist his judgment in practice. As long as theories are made subservient to experience they can do little harm; it is only when allowed to preponderate that they become injurious. As a caution against their hasty adoption, or giving them too much weight in practice, let us contemplate

the beautiful but transient fabrics reared by our most celebrated theorists, most of which are fast falling to the ground like those magnificent but airy castles, existing alone in the youthful imagination, and fading before the sober light of reason, acquired by time and experience.

FINIS.

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