

Clinical lectures on typhus and continued fever / by Charles Ritchie.

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ORIGINAL COMMUNICATIONS.

- I. *Clinical Lectures on Typhus and Continued Fever.* By CHARLES RITCHIE, M.D., one of the Physicians of the Royal Infirmary, Glasgow.

GENTLEMEN,—In my lectures on Clinical Medicine in the present session, I propose to devote my efforts more extendedly than usual to the exposition of Typhus and of Continued Fever.

An inquiry into the nature of these affections, pervading, as they do, the whole animal frame, and having their general and essential seat, even when they are specially localized, in the primary or elementary systems of the body, is possessed of much intrinsic importance. An acceptable theory of fever must represent much of the general medical science of the day, and its rational treatment ought ever to be directed with an enlightened reference to the known constitution and functions of the different elements of our physical nature. These are considerations which, while they oppose serious difficulties to the investigation, form also so many weighty inducements to engage in it. But it has been on other grounds that I have adopted the purpose of lecturing on Typhus and Simple Continued Fever.

The permanent presence and frequent extended ravages of these diseases in the community; the discordant and vague notions held of their nature; the existence, in particular, of a much-vexed question on the identity or otherwise of typhus with one of the forms of continued fever; and lastly, the nearly absolute unacquaintance of students with the practical peculiarities of these diseases, have appeared to me so many good reasons for occupying our time with this investigation.

I. And, first, I would speak of the wide-spread and nearly constant prevalence of typhus and of continued fever as diseases. It has been said by an eminent practical observer, the late Dr. Baillie, that typhus fever is a rare disease. This statement, proceeding from the principal medical officer of a great London hospital, is remarkable. I have somewhere seen it stated, that

the number of fever cases in London, at the beginning of the present century, averaged 40,000 per annum, with a mortality of 3,118, or about one death in every $12\frac{1}{2}$. Should Dr. Baillie's opinion refer to the relative infrequency in modern times, of one highly contagious form of febrile disease among the residents of St. James's or of Berkeley Square, and not to that of fever in general within St. George's Hospital, or amongst the general population, it may be admitted, in a general sense, as correct. There is not an individual among you, however, wherever in future placed, who will not often have occasion to remark the insidious diffusion of typhus in every class of society, with circumstances, frequently, of peculiar moral interest; or who will not discover, on your first exposure to the professional demands of an epidemic continued fever, that the rich, equally with, and sometimes in relation to their number, more than the poor, are its helpless victims; and that the earliest calls on your skill and humanity fall to be made, probably, for some estimable friend, whose life is as valuable to the community, as it may most eminently be to his distressed family, or even to yourselves. In the rural districts around Glasgow, about 12 per cent. of your visiting list will, on the average of a few years, consist of fever. In this city, one individual out of about every 66 persons, had either typhus or simple endemic fever in 1851, although it was a healthy year. In Plymouth, the proportion of nervous fevers to other diseases, in the beginning of the present century, was as 1 to 18; in London it was as 1 to 16; in Newcastle as 1 to 10; and in Liverpool, according to Dr. Currie, as 1 to 5. As relates to the mortality of fever, Hoffman said that one-tenth of the deaths in the human race was from fever. In 1838, a year in which fever was not epidemic in Glasgow, the deaths from it amounted to 8.495 of the whole; and if you extend your inquiries to other places in Europe, you will find the deaths from the same source sometimes, as in many parts of Italy and Sicily, as high as fully two-thirds of the average mortality.

Most of these numbers do not refer to periods when either typhus or fever had prevailed as epidemics. Since 1814, when I was a resident student in this hospital, eight or nine seasons of great increase of both of these diseases have occurred, thronging the wards, and compelling to successive extensions of the means of accommodation. In such seasons, the spread of typhus or of simple continued fever may know little other limit than that opposed by the lack of susceptible subjects, and their fatality, according to their type, may be either slight or greater by one-half than the decimation of all who are affected. The actual public suffering produced by this cause may be conceived from the fact, that the pauper cases alone of fever and typhus in Glasgow, during the years from 1838 to 1848, inclusive, amounted to 62,917, or about 1 case of fever in the working classes, at some period

or other of the eleven years, to every 4·7 of the whole population, estimated at 300,000, and the deaths averaged 1 in 11·5. Again, the admission of fever patients into this hospital since its opening in 1795 till 1852, have been, when compared with the aggregate of all sorts of general medical and surgical disease and injury, as 5 is to 7, and the mortality has seldom been less than 1 in 9 per annum.* Surely, therefore, the remark of the experienced Forestus, that fevers are of all diseases the most familiar to humanity, or the assertion of the sagacious Sydenham, that of every three sick people met with in practice, two are cases of fever, are both nearer the mark than that of Baillie, with which I introduced these observations. It is true that Dr. Sydenham's classification of this morbid state was even more general than I shall take occasion to complain that ours still is, for he included all acute exanthemes and pleurisies, as well as puerperal fever and rheumatism, under this head; but I venture to believe that, whatever deduction may be made from his estimate on the score of a more precise use of terms, there is still enough in it, as there also is in the other statements I have adduced, to justify me on the ground of the frequency with which you will be called to treat these diseases, in entering at some length into their elucidation.

II. But I have said that medical opinion concerning certain points in the nature and treatment of typhus and of continued fever is conflicting and unestablished, and that this, also, has weighed with me in attempting to give you an exposition of the subject. The exposition of this remark requires some details.

1. A person, say an unfortunate medical practitioner, who has, perhaps, acquired a disposition to such chills, has been caught in a winter or spring shower, or he has had the circulation and secretion of the skin disturbed by cold in some other form. He has languor, drowsiness, mental feebleness, muscular weakness, and a rigor, followed by increase of the pulse and sensible heat, accompanied by general pains and headache, succeeded by a sweat which leaves him at the end of twenty-four hours enfeebled, but free from fever. Or some of yourselves, attempting to be compensated for the privations of a past, or to prepare for the seclusion and mental effort of an approaching, winter session, by being scorched and broiled in a summer excursion, find yourselves of an evening probably in the chilling, comfortless "room" of a remote Highland "public-house," weary, dispirited, cold, and sick. You retire to your homely bed, but not to rest. Headache, fever, and epigastric oppression, cause you to toss about in fretful desires for the return of day; during which, when it at length arrives, you are probably freed from your distresses by the occurrence of bilious vomiting or diarrhoea, and of perspiration.

* The precise numbers are—

Patients with general disease,	79,497.
Do. with fever,	56,827.

These are examples of what has, from its short duration, been called *Diary* or *Ephemeral fever*.

In examining, again, the admissions to the fever wards of this hospital, you will, from time to time, observe individuals brought in who are no sooner restored to their heat after the bath, which every patient who is able has on coming into the house, than they are convalescent. Some such patients may get an emetic besides, or they may have been purged, vomited, and sweated after the bath, by having had a solution of sulphate of magnesia and a grain or two of tartrate of antimony exhibited; or, having been purged, and, perhaps, bled before admission, they may have got ten grains of the powder of *Ipecacuanha* with opium, or a half-ounce dose or two of the water of the acetate of ammonia in warm gruel; but, in all, you will find that they have been ill for three or four days only, and that, before they have been more than 24 or 48 hours in the hospital, they are without fever. These are examples of what, from their protraction as compared with the diary form, are termed *Prolonged ephemeral fevers*, or, sometimes, from their mildness relatively to the severer kinds, *Febriculæ*.

Now, of these slighter forms of febrile action, the question has been mooted, are they identical in their nature with continued fever; and, of course, according to the progressive spontaneous development notions entertained of typhus, are they the actual monads of that disease, or even of yellow fever and the plague? It is with *ephemera*, also, that the opinion that fever may be cut short, and that the praise bestowed on many so-called febrifuge remedies have sprung.

2. Again, a not unfrequent experience with those of you who settle in country districts, will be as follows. A man, usually of full habit, and who is not improbably in the practice of eating and drinking more than is good, is seized, after a long journey on foot in the sun, or a day of hard labour in the fields in summer, with shivering, sickness, and general indisposition. You find him on the second or third day with flushed countenance, violent headache, profuse sweatings of the face and hands, a full elastic pulse, a dense white fur on the tongue, some distension and tenderness of the stomach, and a disposition to drowsiness and taciturnity; and, should you treat him inertly, short intervals of intelligence may occur, but delirium, tossings of the head and limbs, numerous delusions, violent muscular efforts, stupor, and convulsions, will successively ensue, and death will probably take place from the tenth to the twentieth day. On inspection after death, the arteries and veins of the brain and its membranes will be found injected and loaded, the cerebral substance softened, and the investing membranes covered to some degree or other with coagulated lymph, while the cavities are filled with serum.

This is an example of one variety of a species of *Common Con-*

tinued fever, in which the principal lesions are in the head, and is represented by the synocha of Cullen.

3. Again, it will be constantly occurring to you in the spring season, and in cold and wet summers, to meet with individuals, who, after exposure to the weather, are affected in succession, and often all at once, with lassitude, drowsiness, sense of weakness, a rigor, head, back, and limb aches, frequent pulse, copious secretion from the nose, sternal load, cough, hot skin, loss of appetite, sickness, and great mental depression. Sometimes, in the second week, the headache may be intense, or the cough be accompanied with vomiting, or there may be red, glossy, tender, or chopped tongue, and diarrhoea; but it will always happen that the pulmonary symptoms, such as hoarseness, loss of voice, and cough, and the various modifications of catarrhal or bronchitic expectoration, are the most prominent, along with mild delirium, sopor, or coma, and other symptoms indicating disturbance of the cerebro-spinal centres. These, unitedly, stamp the affection as a species of simple continued fever, having its principal seat in the nervous centres and pulmonary apparatus. It is the Catarrhal, Influenzal, or Bronchial form of Simple fever; and although its mortality is seldom great, unless when over-actively treated, or when occurring in previously diseased subjects, the necroscopic appearances are such as are likely to be produced by continued sub-acute action in the cerebral substance, in the mucous lining of the bronchia and stomach, in the lungs, liver, and spleen, and sometimes even in the pleura. It is one of the forms of the synochus of Cullen.

4. Again, often intermixed with fevers of the kind just described, and with others, you will meet with acute, sometimes alarmingly severe and grave-looking cases, in which, most usually after shiverings, sometimes without any distinct rigor, there are excruciating pains in the head, back, and limbs, generally in the course of the larger nerves, much fever, often exquisite tenderness at the epigastrium, a tinge of yellow, sometimes a deep jaundice of the skin, with bilious vomiting, a violet-coloured tongue, covered with a thick yellow or greenish fur, which is often moist, but sometimes dry, browned, and chopped. There is often delirium or stupor, and the pulse is sometimes full and bounding, but more frequently soft. The paroxysm terminates sometimes on the fifth day, more uniformly on the seventh, by a profuse and universal sweat, and often by bleeding from the nose or womb. An interval of complete absence of every febrile symptom now occurs for about a week, when, in many instances, there is a return of all the symptoms, and a second crisis, which is usually a final one, takes place about the seventeenth or eighteenth day of the disease, with the same sweating as before. This is a third species of Simple Continued fever, which you will be ever meeting in some of its varieties wherever you practise. Its

chief pathological seat is in the stomach, duodenum, and liver, on which account I have called it the gastro-hepatic fever. Casualties are rare in it, unless in the subjects of former disease, and accordingly, in most of the inspections, the kidneys have been found affected with kirrrosis. This is to be regarded, however, as accidental—the essential pathological changes in the disease being in the mucous lining and follicles of the stomach and duodenum, and in the lobuli of the liver.

5. Lastly, under this head you will, if resident in the country, in every season of the year and state of the weather, and, if in town, generally in spring and autumn, be called frequently to treat cases of very various degrees of severity and danger, but corresponding, all of them, in exhibiting some marks of lesions in the digestive tube, along with the distinctive symptoms of fever or cerebro-spinal disturbance, and more or less bronchitis. There will be, particularly in the severer cases, besides the constitutional disturbance which attends every fever, a rose-coloured, deeply-fissured tongue, large watery evacuations of a gamboge, sometimes of an ochre, at others of a pea-soup colour, distension, tenderness, and perhaps crepitus, or gurgling of the bowels, great emaciation, often sparse rose-coloured spots on the neck, frequent remissions and exacerbations, shrivelled skin, pinched features, and a protraction of the symptoms often to the twenty-first, twenty-eighth, or even the fortieth day, and frequently later before recovery or death ensue; although often death is induced on very early days of the disease, sometimes by profuse hæmorrhage from the bowels, and at other times from peritonitis, the result of perforation of the bowels. There is considerable variety in the existence and succession of the different symptoms, especially in the degree in which the cerebral organs are affected, or in which the symptoms of debility and vitiation of the blood, as also of disorder of the bowels, present themselves, and some of the most fatal instances of the disease have often the mildest course and the least threatening aspect. The appearances after death in the fatal cases are, in addition to those I have already mentioned as occurring in the other species, a remarkable inflammation, fleshy development, or hypertrophy and ulceration, or gangrenous sloughing of the solitary and aggregate mucous follicles of the ileum, often with perforation of the intestines, and enlargement or suppuration of the mesenteric glands. This is Simple Continued fever in its Enteric species, the typhoid fever of Louis, and one of the forms of the synochus of Cullen.

6. Now, in the midst of all these calamitous visitations, themselves, some may suppose, a sufficient list, there will be constantly obtruding themselves on you—at every season, and amongst every age and class, and sometimes prevailing as a wide-spread epidemic—another series of cases, which commence often more insidiously than most of those already described, frequently with less tumult

of the constitution ; there being often even a kind of foreshortening or partial suppression of those symptoms, such as extreme prostration of strength, acute suffering, great heat, and violent arterial action, which we are accustomed to associate with the idea of a fever. After the third day from a rigor, or the occurrence of general indisposition, soreness, and weakness, these cases often assume most of the symptoms which I have described as characterizing the cephalic form of simple continued fever, or they are as frequently met with accompanied with the general wheezing in the breast, and with the cough which distinguish catarrhal fever ; or, at other times, with either the strongly marked appearances of hepatic load, torpor, or over-action, which accompany the gastro-hepatic, or the chopped tongue and high-coloured watery evacuations, which generally attend the enteric forms of that disease. On other occasions, the surface pain becomes so acute as to mislead persons unacquainted with the habits of the disease, into the supposition that they have to treat a *tic-doloureux* of the head, or a commencing pleurisy or enteritis ; and again, towards the fourth, fifth, and sixth day, it is not infrequent that an appearance of scattered papules on the face, and also on other parts of the body, suggests the notion of small-pox ; or that the universal presence of a crimson or dark-red efflorescence, along with the cough, betrays you into the belief of the disease being measles. More commonly at this time, should the medical attendant be unacquainted with the complaint, or careless, the eruption is not observed at all, and it is only on the sudden access of sopor, delirium, and excessive weakness, which happens especially in neglected cases, as early as the seventh and eighth days, that his attention is directed by the nurse to what he will probably call *petechiæ* in the skin, especially on the back, but which are only the typhus macules, which existed for days before, now become copper-coloured or even ecchymosed from feebleness of the heart's action, or from changes also in the blood, precisely as occurs in like conditions of collapse in variola and scarlet fever. You will perceive that I am now dealing with the disease termed Typhus fever. The most careless practitioner having by this time discovered, as he thinks, that he has to do with what he calls a spotted fever, equivalent in most minds with " a malignant fever," gives wine, and, should the patient be young and of sound constitution, and get abundance of fresh air of a moderate temperature, he will obtain a crisis most generally on the fourteenth day, and do well. In other instances, secondary local affections of the various viscera, or tissues, occur about the period of crisis ; diarrhœa, in particular, often appears in an intractable form, and not unfrequently such patients are cut off by hæmorrhage from the bowels.

The appearances on inspection after death from typhus are—sanguineous congestion of the brain and its membranes, serous effusion into its cavities, and softening of its texture. In the thorax

there is soft hepatization of the posterior lobes of the lungs, and congestion of the bronchial lining; and in the abdomen there is unnatural development of the mucous crypts of the stomach and intestines, deep arborescent, and sometimes continuous sanguineous engorgement of the coats, particularly of the ileum, softening, and occasionally superficial abrasion, of the mucous lining of the stomach, and other portions of the digestive tube.

The preceding is a brief outline sketch of all the affections usually termed Continued fever, to be met with in Europe, or in the Northern States of America, and which, including their varieties, have often threatened, I doubt not, by their fearful array in systematic works, to appal and perplex you. They are substantially the forms of continued fever, of which Hippocrates has recorded examples, or of which he spoke, either as being acute or chronic; or according as they exhibited particular symptoms, as heat, shivering, or hiccup, under the names respectively of ardent, phricodal, or linguodal fevers; and they constitute the material of every treatise on the subject since. They are thus the real representatives of the light, ardent, slow, and pestilential fevers of Celsus; of the ephemeral, imputrid, and putrid fevers of Galen; and of the synocha, synochus, petechial, malignant, bilious, pituitous, mucous, mesenteric, nervous, typhus, adynamic, ataxic, gastric, gastro-enteric, and typhoid fevers of succeeding writers to the present day.

Throughout the lengthened period of authorship here alluded to, fevers have ever proved a fertile source of the most outrageous diversities of judgment in relation to their proximate cause, and the nature and treatment of their respective species; and since the time of Cullen and Pinel, in particular, while the conflict regarding their external sources and internal constitution has waxed higher and higher, their collocation by these distinguished nosologists into genera has added amazingly to the confusion, particularly in Britain.

In listening to the running record of the symptoms and necroscopical appearances of the several forms of fever which I have given, many of you may be disposed to say, that really it is not easy to perceive that there is much difference between them, or that, if the distinction amounts to aught, it is to no more than was alleged to have distinguished a certain worthy's wigs, namely, progressive deterioration; or that the ephemeral, continued, and typhus fevers, are simply the positive, comparative, and superlative degrees of the febrile process. The transient febrile paroxysm of a day dissolved, often for ever, by a sweat or a diarrhoea, being thus regarded as a genuine and perfect microcosm of the pestilence, and the several varieties of more extended fever, as so many of its blighted developments, the mildest fevers being the diminutives only of those which are more severe. This is an opinion in which, as having reference to the various forms of ephemeral and con-

tinued, and, perhaps, also of intermittent fever, I entirely concur; but from which, as including typhus, I must in the strongest terms dissent. It was the view of the matter, however, which was held by the father of medicine, and which was advocated afterwards by his commentator Galen, and it is the notion of the subject universally adopted by writers on fever to the present century. It is very much also what certain modern pathologists have reproduced with an air of great novelty and pretension in our own day; but it is an hypothesis which, as I think I shall prove, from typhus having always been included in it as a mere variety and exaggeration of common fever, is thoroughly vitiated.

It were easy, were it in a clinical lecture proper, to illustrate the confusion of opinion which obtains in regard to fever, by referring in detail to the long line of phantasms assumed successively as its proximate cause, from that of the fermentation of bile of Hippocrates, to the fermentation of animal or vegetable poisons of modern British pyrologists; or from the assumption of the Grecian sage, that ardent or inflammatory fever is the primitive type of every other fever, to the modern varied developments of the same notion, that the formal or essential cause of all fever is a local inflammation. Pinel insisted on the existence of certain primitive or substantive fevers, but at the same time asserted that every fever is constituted by a state of inflammation, and that typhus consists in an extension of the inflammation to the nervous centres. Cullen, again, treated of fever, not as a specific entity, but as an aggregate of certain symptoms—an inflammatory and a putrid concrete; the latter, or his typhus, varying often according to the degree of power in the cause, or to differences in the climate or season, or in the constitution of the person affected.

It might also, did we turn to other schools—the denial, on the one hand, of the very being of an inflammatory fever, independently of local lesion, and on the other, the refusal to award to typhus the rank of a disease, but only of a state or condition; or did we advert to the hot disputes on the assumption that there is a fever, which is the most common of all fevers, a fever constituted in the first week by the nonentity synocha, and in the second week by the other negation, typhus; or did we farther attempt an analysis of the successive classifications of fever which have been broached since the time of Cullen, it could readily be shown that there is here also much which is destitute of precision, or absolutely conflicting, and well fitted to confuse and discourage the young inquirer.

The same might be shown to be eminently true of the curative principles and means adopted in fever. I do not allude on this point to anything beyond the contradictory and indefinite therapeutic appliances of the present times, the sources of perplexity to which you are personally exposed, and to those especially which spring out of the belief that continued fever and typhus are convert-

ible diseases, although a retrospect of the history of practical medicine would show that it had never been otherwise. Some modern British writers, as Dr. Christison, assume inflammatory fever, and others, as Dr. Watson, typhus fever, as the type of fever in general; but all agree in describing the disease as generically one in its essence, and as requiring a diversity of treatment according as the one or the other extreme of the fever scale seems to be approached. How perplexing and stumbling to the young practitioner to find what is thus ostensibly the same disease, recommended at one time to be treated with wine and brandy, and at another by blood-letting and purgatives?—to see one case of this so-called typhus fever receiving, with evident advantage, at the rate of more than a bottle of wine per day, and another instance of what is declared to be generically the same affection bearing blood-letting, as in the late Dr. Welsh's cases, to the extent of 40 or 50 ounces; or, in yet a third alleged variety of the disease, as in the practice of MM. Broussais, Bouillaud, and others, to observe the most rigid antiphlogistic principles, and the most systematic blood-lettings, set forth as the discovery of the age—the long desired, and only correct or successful means of combating fever.

Such remarkable discrepancies, in the pathological doctrines and treatment of fever, suggest a plausible *à priori* argument, that there is a disturbing cause operating in their production, and that fever, as including typhus, cannot truly possess the unity of generic nature which has been so universally ascribed to it. This brings me to speak in explanation of my third reason for taking up, rather particularly, the subject of typhus and continued fever in these lectures, namely, the existence amongst medical men of a much-vexed question on the identity, or otherwise, of typhus, with what I esteem one of the species of simple continued fever.

(To be continued.)

II.—*On the Convulsive Affection which occasionally manifests itself in the course of Typhus, and its probable connection with Nephritic Disease.* By JAMES STEVEN, M.D., &c.

(Continued from page 24.)

IN the former part of this paper, I endeavoured to convey some idea of the character of the convulsions, and the circumstances in which they most frequently present themselves. Attention was likewise directed to the condition of the kidneys, with which this nervous affection is found associated in fatal cases. The features presented by the urine, and the undoubted presence of a poison in the blood in some of these complicated cases of fever, were also pointed out. At the same time, I took occasion to remark that a morbid congestion of the kidney, together with a change in the character of the renal secretion, is by no means rarely to be observed in aggravated cases

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- I. *Clinical Lectures on Typhus and Continued Fever.* By CHARLES RITCHIE, M.D., one of the Physicians of the Royal Infirmary, Glasgow.

LECTURE II.

(Continued from page 138*)

III. I have, in last lecture, alluded to the agitation by the profession of the question, whether Typhus and Typhoid fever are of common origin, as a third inducement with me to consider the subject here, and I have referred to the conflicting views entertained of the etiology and treatment of fever in general, as supplying a cogent *a priori* argument against this supposition. I would now, in opening up the nature and grounds of this dispute, seek to indicate the independent and intrinsically distinct constitution of the two diseases, by considerations of another description.

1. In one of the works ascribed to Hippocrates, (*De Ratione Victus in Morbis Acutis Liber: Sect. IV. p. 68.*) there is the description of a fever characterized by anxiety, meteorism of bowels, jactitation, sense of weight and pain in the head, tendency to faint, loss of speech, hiccup, trembling of the hands, and death about the twelfth day, or a favourable crisis on the fourteenth day. This assemblage of symptoms is distinct from that of any other form referred to in the same writings, and has a strong resemblance in itself to the habits of typhus.

Again, in the first book *De Morbis Vulgaribus*, (Sect. I. p. 14.) he says, that towards the end of summer and during the autumn, there were many cases of mild continued fever, which were protracted to the twentieth, sometimes to the fortieth, and at others to the eightieth day, the principal symptoms being some diarrhoea, slight cough, and a succession of remissions, with little mortality. This appears to me to have been mild enteric fever. In the following year (Sect. II. p. 18) a more severe form of the

same affection appeared. It commenced with moderate symptoms, but gradually assumed a severe type, and became the most lengthened, violent, and complicated of all the fevers of that season. Watchfulness, alternating with sopor, pain in the bowels, severe diarrhœa, light-coloured stools, cough, much emaciation, an eruption of small papules on the skin, swelling of the parotid glands, and sometimes of the joints, occasional crisis on the eightieth day, and frequent relapses, are mentioned among the symptoms; and two cases, the second and sixth of the first series, (p. 48—50,) the one ending in death, and the other in recovery, are related. All of which appear to me to have reference to the more severe form of enteric fever.

2. The simple and succinct narratives of the history and symptoms of fever detailed by Hippocrates, which must be regarded as exhibiting the forms of that disease which prevailed down to his day, were succeeded in the remaining period of the Greeks, if we omit the terse and luminous account of the disease by his contemporary Thucydides; and, also, throughout the dreary seventeen or eighteen centuries occupied by the Roman and Arabian schools, if we except the writings of Livy, not by renewed and independent observations on its habits and phenomena, or original delineations of its character, but by hypothetical and extravagant speculations on its proximate cause, the collocation of its forms, and the conduct of its cure, on the fallacious principles of Galen.

The obvious presumption is, however, that in that long night of the world, fevers would continue to observe the same laws, and to manifest the same phenomena, as in the yet more lengthened line of centuries which preceded the works of Hippocrates; and, accordingly, at the revival of letters, the clinical observations of Forestus and others, supply us with histories and delineations of the disease, which are in entire accordance, both with previous experience, and with that of our own times.

3. In the sixteenth century, which was as remarkable for the number, severity, and variety of its epidemic fevers, as it was eminently distinguished for the revival of letters and of religion, a pestilential fever with cutaneous macules, described as being similar to the bites of fleas, and which was named pulicular, and sometimes petechial fever, broke out in 1505 in Italy, being imported, as was supposed, for the first time, from Cyprus, and extended afterwards by contagion. It appeared again as an epidemic in 1518, and, throughout the century, prevailed in Spain, where it received the name of *Tabardillo*, from the imagined resemblance of the skin to a spotted cloak; and also in other parts of Europe, being distinguished by its red and sometimes livid efflorescence, not elevated above the skin, its contagiousness, malignancy, tendency to putrescency, inability to bear general bleeding, and for the necessity there was in its treatment for cordial food, wine, and other stimulants. It was recognized generally as a pestilential

fever, which, as some supposed, differed only from carbuncular plague in degree, and to which, on this account, they gave the name of *Febris pestilens levior*. It was identified also by certain writers, as being the pestilential fever of the ancients, and its eruption as the *ecthymata* of Hippocrates; while others, taking the same view, regarded it besides as being in its constitution partly of the nature of inguinal plague, and partly of that of common continued fever. To me the descriptions given of it by Fracastorius and others, indicate plainly that it was the maculated typhus of the present day—the typhus of these lectures.

4. In the latter half of the same century, another fever prevailed extensively, which, from its supposed origin in that country, was designated the Pannonian or Hungary fever. Sennertus, as quoted by Pringle, in speaking of it, says, "*Nonnulli morbum Hungaricum et febrem petechialem plane pro eodem morbo habent, sed mihi quidem non satis recte. Etsi enim petechiæ et maculæ illæ quandoque etiam in morbo Hungarico conspiciantur, tamen non semper id accidit, et potest hic morbus esse sine maculis. Contra vero maculæ in febre petechiali omne inveniuntur; unde et nomen hæc febris habet.*" Jordan, referred to by Sennertus (*De Morbo Hungarico, Lib. IV. cap. xii. p. 933*), makes no mention of eruption as a symptom in this disease, but concludes with this remarkable statement, so strongly opposed to the views of those who would account it to be typhus, "*Omnes, quo vini potu non abstinuerunt perierunt;*" and Sennertus himself says (*p. 943*), "*Vinum huic morbo valde noxium, ut et cerevisia potens.*" While Skenkius, in a passage, now familiar from its repetition by writers on fever, says, (*De Morbo Hungarico, Lib. VI. p. 847*), "*Omnes qui vini potione non abstinuerunt interiire; adeo ut summa spes salvationis in vini abstinencia collocata videretur.*" Haller, also, in speaking of the same fever, (*Bib. Med. Pract., Tom. II. p. 204*), employs, as if in anticipation of the discussions which now obtain, the striking terms, "*non idem cum petechiis Italorum malum, neque tamen longe diversum;*" and Alberti, a native of Hungary, in discussing it, says, (*Hal. Disput. Medicæ, Tom. V. p. 362*), that it was an endemic, that is, a regional or local, and not an imported fever, which sometimes took on an epidemic character, affecting at once all classes of people, and also spreading, when once established, by contagion. Its more remarkable symptoms were an overpowering headache, unquenchable thirst, excessive sickness, and extraordinary sense of uneasiness in the epigastrium, so that the patient was ever carrying the hand to the part, and the bowels were constantly affected, being either very open or the reverse, and often loaded with worms. He also states, that by some less perspicuous physicians, this fever was asserted to be identical with maculated typhus (*febris catarrhalis maligna*); from which, however, it differed in the course and greater acute-

ness of its symptoms, in not prevailing in very cold weather, and also in the fact that, while in petechial fever the macules, as a rule, were seen on the fourth day, in this they were often absent as late as the eighth. The length of the disease was uncertain, being often much complicated in its latter stages.

Forestus, in describing one of the epidemic extensions of this fever, speaks of it (*Opera Omnia*, p. 155) as imitating pestilential (maculated typhus) fever, and as being in its nature a transition fever—the language of modern pyretologists—between non-pestilential (continued fever) and pestilential fever. He says, it was often accompanied with diarrhœa, that it sometimes extended to three months' duration, and he gives the details (p. 188, Obs. 34) of a fatal case, which, as well as his sixth observation, and the annotations in his fourth, correspond with much accuracy to the characteristics of protracted cases of the enteric or typhoid fever of our own times.

In treating professedly of sporadic continued fever, the same writer, after having given examples of ephemera and febriculæ, precisely as we meet with them, describes cases extending from seven to eleven, fourteen, or even forty days, attended by purple spots, bleeding at the nose, and sometimes profuse purging; and these descriptions, while they agree in the most literal way with those given by other writers in the same century, (*Haller, Op. Cit., Tom. II. p. 212.*) of the disease in an epidemic form, as in the Pannonian or Hungary fever, tally also not less closely with the habits of continued fever, when it prevails in its enteric form, as an epidemic amongst ourselves.

5. It is necessary to state here, that, as in the present time, there is a presumed cystaloid or hybrid fever, the synochus of Cullen, described by him as an inflammatory fever at its commencement, and a typhus at its termination; but which definition is only a hypothetical disguise for continued fever in its enteric and bronchial kinds; the ancient Greek and Roman writers had an autumnal fever, about which they also contended as to whether it was an intermittent or a continued fever, and of which dispute they made a compromise, on the principle that the fever was a compound of both, by designating it a *hemitritæus* or a *semitertian*. It appeared chiefly in damp weather, and was distinguished by the pituitous or mucous, and also the bilious character of the alvine discharges, by a tendency to remit at irregular periods, and to propagate itself, at times, slowly by contagion, and, at others, to prevail extensively as an epidemic. It was not a foreign, extraneous, or imported disease, but purely indigenous, a form of the endemic fever of the country, which, from specialties in the seasons, or in the physical condition of the population as to food, hardships, &c., sometimes acquired, as in the Hungarian fever, which was an example of it, an epidemic, and occasionally even a pestilential character.

6. The identity of nature of the hemitritæus, with the atmospheric, endemic, or continued fever of the continent of Europe, whether sporadic or epidemic, and the unity of both of these, in a general sense, with the intestinal species of the continued fever of this country and age, and the distinctness of nature of the hemitritæus from either the petechial fever of the sixteenth or of the present century, appear further from an examination of the medical history of the succeeding hundred years.

7. Willis, whose descriptions of fever (*Opera Omnia*, cap. xiv. p. 111) refer to the first half of the seventeenth century, treats of typhus as marked by eruption, under the name of pestilential fever, distinguished, on the one hand, from plague, and on the other from continued fever. And to an aggravated form of the latter, or continued fever, which sometimes appeared sporadically, and at others as an epidemic, corresponding precisely with the severe hemitritæus or Hungarian fever, he attaches the name of malignant fever. This form, he says, differs from the pestilential (typhus), in being less contagious and destructive, and from continued fever in its greater tendency to spread. It is without the eruption of typhus; but, he adds, resembles that disease in the great commotions of the nervous system which it induces, while it differs from it again in the incompleteness of the crisis, and in the long persistence of feverishness, and a state of cachexia and dangerous local disease.

8. Riverius, who published in 1674, treats of simple continued fever—a fever without local complication; of putrid continued fever—or simple continued fever having local congestions; and of pestilential fever. The treatment of the two first he conducted on antiphlogistic, and of the latter on modified stimulating principles; and he states that the symptom which is distinctive of pestilential fever is an eruption of macules. After describing these (*Praxeos Medicæ*, p. 530) as sometimes resembling flea-bites, he adds, “*Aliquando verò amplissimæ sunt, et partes integras, magnamque corporis partem; brachia nimirum, crura vel dorsum occupant; tumque partes rubore infectæ apparent; qui intra paucas horas sæpe evanescit, atque iterum revertitur.*”

9. Baglivi, who wrote at Rome in the latter half of the seventeenth century, speaks of the hemitritæus as being called a malignant fever, as having for its cause inflammation of the small intestines, and congestion of the mesenteric apparatus, as yielding to moderate venesection, baths, warm fomentations to the belly, gentle laxatives, and clysters, and afterwards to mild stomachics, as extract of chamomile; while it was greatly injured by wine, or bark, or by such spirituous, aromatic, or other stimulant remedies, as, he says, were highly useful in pestilential (typhus) fever. He speaks of it further as being often distinguished by the presence of scarcely any fever, when, all at once, the patient was cut off, its malignancy being dependent on internal

inflammation. Critical days had no influence on it, and in no disease were patience, expectation, and soothing treatment more indispensable; but when the mesentery and bowels were congested rather than inflamed, as was the fact in the favourable cases, a crisis was had about the fourteenth, or, at most, the twenty-first day.

10. Sydenham, about the same time, described a fever, differing both from pestilential and from simple continued fever, which appeared first in a mild form, distinguished, in addition to the symptoms common to fevers, by a slightly white tongue, natural urine, a tendency to diarrhoea, mild delirium, &c.; crisis on the fourteenth day; and also, in a severer form, in which all the symptoms were more accumulated and grave, pleurisy and loss of voice were sometimes present, and the crisis did not happen before the twentieth, twenty-eighth, or even the thirtieth day. Purgatives were hurtful, and blood taken from the arm was buffy. With the use of a bleeding at the commencement, or at most two, and of enemata of milk and sugar, he was convinced that it was a disease which could be happily overcome simply by time. When the diarrhoea was severe he gave narcotics, and when there were symptoms of hectic he administered wine.

The oneness of Baglivi's and Sydenham's fevers must be obvious, and anybody familiar with the enteric or typhoid fever of the present day, can scarcely fail to perceive their strict identity also with it; a resemblance which extends to the necroscopical appearances.

11. Spigelius (De Semitertiana, 1601—22) describes an epidemic hemitritæus which broke out after frequent rains, in which, on the inner surface of the small intestines, there were found hard yellow excrescences, and the bowels inflamed; and Panarolus, a physician who preceded Baglivi in Rome about forty years, says (Pentec. 4, Obs. 8), "*Romæ infinito ægroti anno, 1649, febre continua accubuire, in quorum sectis cadaveribus ventriculus et reliqua viscera tanquam exusta apparebant, quare refrigerio, et humectatione postea multos sanatos.*" I may mention that the disorganization of Brunner's and Peyer's glands, which is the essential feature of enteric or typhoid fever, resembles nothing more, in a certain less advanced or mild stage of the complaint, than the dark, superficial eschar which is formed by the momentary touch of a mucous surface by the actual cautery. Although it, doubtless, had a more general meaning, Panarolus' "*tanquam exusta*" is a literal description of this appearance; while the account of "*the yellow excrescences on an inflamed base of mucous membrane,*" given by Spigelius, is a graphic and strictly accurate delineation of the advanced and fully developed disease.

12. It completes the presumption of the oneness of Baglivi's mesenteric fever with our enteric, that Lancisi, a succeeding writer on the fevers of Rome, says that, on opening the bodies of some

who died of these fevers, wounds were found in the bowels, some of which had even perforated the coats of the intestines. Nor does it affect the value of this evidence, that Lancisi ascribes these changes to an erroneous cause, viz., the bites of worms.

13. In the next century the proof becomes more definite. Hoffman, whose writings extend to about 1748, adopts (Tom. ii. Cap. I. sec. vi. p. 106) both Baglivi's description of mesenteric fever as that of the semitertian, and Spigilius' account of the necroscopical appearances in the semitertian, as the type of those in the mesenteric; but besides this acknowledgment of the terms as convertible, he speaks also of the ordinary acute continued fever, as consisting in sanguineous congestion of the membranous viscera, passing, unless relieved, into fatal inflammation of the brain, fauces, gullet, stomach, liver, or duodenum. His account of the origin, symptoms, progress, and organic lesions, and proper treatment of the hemitritæus or mesenteric fever, and of those of the malignant form of acute continued fever, are indeed identical. He describes the latter thus, as arising from atmospheric causes, as cold and wet after heat, as in the hot days, and cold and damp nights of Austria and Italy; or in cold, moist spring and autumn weather, succeeding to mild, or hot and dry seasons, when, as in Hungary and Rome, it sometimes is epidemic, slightly contagious, and occasionally attended with diarrhœa, and bleeding from the bowels, and an eruption of rose or pink coloured macules on the skin. He draws an extended line of distinction between this fever and typhus, which he describes as the *Febris petechialis vera*; but, remarkably enough, he also anticipates the entire principle of Louis' division of typhus and typhoid, by naming the malignant continued fever the *Febris petechizantis vel spuria*. This affection, when the constitution was good, required little treatment beyond protecting the skin with flannel without accumulating the heat, the avoidance of all food which was not of the simplest kind, as also of the erect position, emetics, purgatives, heating cordials, or other powerful medicines. A crisis usually took place on the fourteenth or twenty-first day, with a convalescence of about three weeks, unless when it was improperly treated. In severe cases, purging began about the fourth day, and often continued till the eleventh; and there were frequently violent cerebral symptoms, and an eruption of sudamina. In some robust persons he bled to six or eight ounces, but his chief treatment was an avoidance of cold or heat, of all solid food, cordials, and evacnants, the enjoining of quiet, and attention to symptoms. His *Febris petechialis vera* is typhus, which, he says, arises from contagion, and recommends to be treated by wine and acids.

Such statements, embracing as they do the whole question, and shedding on it so clear a light, leave us equally to mourn and to be amazed at the entire oblivion into which they have fallen.

14. At the time that Hoffman wrote of the fevers of the Con-

minent, Huxham published an account of those in Great Britain. His classification was into ephemeral, inflammatory, slow nervous, and petechial fevers. The latter was our typhus, and was treated by him chiefly on stimulating principles; and the slow nervous fever was Hoffman's pseudo-typhus or petechialis spuria, the hemitritæus, Hungarian, malignant, and mesenteric fever of preceding authors, and the typhoid or enteric fever of the present day. This fever he supposed to depend, however, on relaxation of the solids, thin blood, and what he called vapidness of the lymph and nervous juices, and not as Hoffman, or, before him, Baglivi, more correctly alleged, on sanguineous congestion of the viscera, passing into inflammation; and his treatment, accordingly, was as injuriously as it was solicitously directed to the removal of these fancied conditions by cordials, diaphoretics, and stimulants.

15. The judicious Pringle followed Huxham, describing a jail fever the same with our typhus, and, besides ephemeral fever, what he called inflammatory and autumnal fevers. His inflammatory is our continued fever in a sthenic form, and his autumnal is the same fever, modified by moist and vegetable exhalations; and which, as he himself suggests, when still more modified by differences in the subjects affected by it, or in their external circumstances, and in the treatment employed for its removal, constitutes the nervous fever of Huxham.

16. An important discussion arose at this time between Sir John Pringle and Professor De Haen of Vienna on the question which has been so warmly argued amongst ourselves, whether the petechial fever of Great Britain, the jail, hospital, or maculated typhus fever, was the same with the petechial fever of Austria, the *febris Hungaricus* of the preceding century, the typhoid or enteric of the present.

De Haen had described the latter as a malignant fever; but having warmly adopted the views of Galen, revived by Riverius, Botallus, Sydenham, and others, on the indispensable necessity of large and repeated blood-letting in fever, he took occasion to criticize strongly the work of Huxham, and the then expected work of Pringle, on the partiality of their authors, real or presumed, for the heating treatment of fever.

From the reply of Sir John Pringle, to which this gave rise, it became obvious that there were several forms of petechial fever.

First, that of Pringle, in which the rash consisted of a general, measles-like efflorescence, only more dull and lurid, which appeared under the most cooling plans of treatment, and never more readily than when the patient was largely bled in the beginning, and, in the advanced stage, took nothing cordial.

Second, an eruption of insulated round papules resembling peppercorns—the typhoid or enteric rash.

Third, minute points of a bright red, crimson, purple, livid, or black colour—the petechiæ, strictly so called, of the present time.

And, fourth, patches of a similar kind with the last-mentioned form, but of larger size, and varied shape—the vibices or enlarged petechiæ of our times. The two latter varieties appeared in every description of fever indifferently, and were often created by a hot regimen. They consisted of true effusions of blood into the skin, and sometimes into the deeper textures, and were avoidable by antiphlogistic treatment, and sometimes after their appearance even, by one or two blood-lettings.

The petechiæ of De Haen were constituted by one or other, or by all the three last forms of eruption occurring together. Those of Pringle consisted exclusively of the rubeoloid rash. And while the latter was nearly constant in its development as a pathognomic symptom essential to the fever, the petechiæ of De Haen occurred only in a fractional number of his cases as an accidental complication.

The fever of Pringle, lastly, or the typhus of these lectures, required wine and stimulants; and the other, the typhoid of Louis, or the enteric of the present lectures, the lancet and the antiphlogistic regimen.

17. Soon after this discussion, Stoll, the excellent successor of De Haen, described a variety of the autumnal and vernal fevers coming under his care as pituitous fever. When more severe, this was called slow nervous fever, agreeably to the nomenclature of Huxham, and appears to have been strictly a variety of the petechial fever of De Haen. He relates the case of a young man, who, the bedclothes having fallen off while he slept, remained uncovered, got chilled, and in the morning was seized with colic and diarrhoea, succeeded by incessant vomiting. He was not confined to bed, but came to the hospital for medicine till the twelfth day, when he was taken ill with symptoms of enteritis, and died in less than two days. The intestines, particularly the ileum, were inflamed and partly gangrenous, and in this intestine, near its termination in the cœcum, there was a perforation.

18. The same fevers were, about the same time, treated of by various other authors indifferently as pituitous or mucous fevers. Of this kind were those mentioned by Cousbrach, in his account of the bilious mucous fever epidemic at Stutgard in 1783-4; as also that of Knaws on the same disease, and of Jacobi on the nervous pituitous fevers of Stutgard in 1792; but the most interesting of the researches made on this subject at this period, were those of Roederer and Wagler, on an epidemic which occurred at Gottingen in 1760-1.

19. This fever, which was called a malignant, inflammatory, petechial fever, broke out in November, in the midst of the hardships of a siege, succeeding a summer of cold, stormy, wet weather, and while the crowded garrison was exposed to frequent remarkable vicissitudes from heat to cold. It commenced often in the evening with sense of cold, and nausea

followed by vomiting. During night the heat became burning, and there was frontal headache and great thirst. Sometimes it was preceded by diarrhoea, at others the bowels were slow, and there was dry abdominal cough, precordial anxiety, sharp pains in the thorax and hypochondria, difficult breathing, irritability of temper, jactitation, and prostration, with torpor and delirium. Occasionally the diarrhoea had been induced by taking a purgative, and it continued throughout the disease, sometimes attended by slight fever only, or by acute pains and sense of constriction across the colon, meteorism, and the evacuation even by the stomach of lumbrici. The crisis was imperfect, and completed only by a kind of succession, after various intervals, and with acid sweats on the 9th, 11th, 14th, or 17th days. In other cases, all the symptoms assumed a graver aspect, and were accompanied with vomiting or purging of highly bilious matter, or of blood, sometimes coagulated, and an eruption on the skin of round, elevated, rose-coloured spots, or with red or purple spots, vesicles, severe pains in the joints, sore throat, and violent delirium; or they became complicated with inflammation of the lungs, and bed sores, and sometimes they were terminated by the accession of gangrene of the bowels. The necrosopies of thirteen cases exhibited effusions of blood into the parietes of the abdomen, peritonitis, and effusion of bloody serum into the cavity, occasionally amounting to ten or twelve ounces. The mucous membrane of the stomach and small intestines was more or less red, thickened, and sometimes livid or even black in colour, and gangrenous. The mucous follicles of the membrane were developed, and occupied by ulcerations or gangrenous eschars, and in the situation of these the muscular coat of the bowel was sometimes laid bare, and the mesenteric glands were swollen and red.

The fever was designated by its historians as a *morbus mucosus*, the term by which it was usual at the time to speak of certain forms of the endemic or simple continued fever of Europe; and which, when assuming a more distinct remitting type, was called the hemitritæa, or a putrid type, the *febris petechialis seu maligna*. It often, when spreading as an epidemic, simulated closely the typhus of camps, but might still be observed to differ essentially from that disease, in exhibiting after death the marks of severe inflammation of the bowels, and also, in having during life distinct indications of an inflammatory character, and in being more amenable to an antiphlogistic than to a stimulating mode of treatment.

20. About two years subsequent to the epidemic at Gottingen (1764), a fever prevailed at Naples, in which the same association of inflamed or livid patches, ulcerations, hemorrhage, and white pustules on the mucous membrane of the intestines, with enlarged mesenteric glands, was met with along with the exudation, often along large tracts of the lining of the bowels, of a shining albuminous substance.

21. It is worth recording, as suggestive of various useful reflections, as well as throwing light on the present inquiry, that, in the first volume of the *Annals of Medicine*, published by two indefatigable and accomplished physicians, Drs. Andrew Duncan, senior and junior, there is, in immediately consecutive papers, an account of another epidemic of slow nervous fever, as it was called, which occurred at Gottingen in 1785, and at Hildesheim in 1789; and also of an attack of typhus, which took place among the Spanish prisoners confined at Winchester in 1780. The former fever was attended by obtuse occipital pain, slight fever, great depression, a small irregular pulse, and purging without relief. The patient was often able to remain out of bed during the first ten or twelve days, after which the sensorium became more affected; there was loss of memory, delirium, subsultus, cough, and a dry tongue of a bright red colour without any incrustation. The disease continued for six or eight weeks; was injured by wine, bark, ether, and camphor; and benefited, and that also in the most hopeless-looking cases, by their discontinuance, and by the use of the tepid bath for more than half an hour daily. The Winchester fever was distinguished by an excessive sense of oppression at the precordia, with inward heat, headache, costiveness, drowsiness, small fluttering pulse, and great mortality. The sufferers received great advantage from large doses of ether, enemata of cinchona, and wine *ad libitum*. Two bottles of Madeira a day, for several days together, were given with advantage, and on one occasion two bottles of port wine were swallowed in twelve hours by a patient who recovered.

22. Finally, at the close of the century, a similar fever to that at Gottingen was observed by M. Pinel to prevail at the Bicêtre, and was described by him as one of the orders (the third) of his class of fevers, under the name, as indicating its local seat, of adeno-meningeal fever. Pinel assumed the mesenteric fever of Baglivi, the pituitous fever of Stoll, the mucous fever of Roederer and Wagler, and the glutinous gastric fever of Naples, as the types of his adeno-meningeal, and he asserted that the ancients themselves, as we have seen they did, supposed the seat of this fever to be in the stomach, mesentery, and intestines.

23. In the present century, the frequent origin—independently of contagion,—the inflammatory nature, the eruption and other individual features, and the local complications in the mucous membrane and follicles of the small intestines of this form of fever, were fully ascertained through the successive labours of Proust, Broussais, Petit and Serres, Bretonneau, Andral, Louis, Bouillaud, Chomel, Cruvellier, and others. These pathologists had the satisfaction of successfully finishing what Spigelius, Sarconé, and Roederer and Wagler had begun; their respective monographs on what they successively termed entero-mesenteric fever, dothinentery, and typhoid fever, having put us in possession of delineations of

enteric fever which are unequalled, for copiousness of detail and graphic and accurate statements of facts, in the literature of our art.

24. In 1811, Professor Hildenbrand of Vienna published a treatise on Typhus, in which the claims of that affection to be considered a distinct and primitive disease, an essential fever, as specific and unvarying in its nature as the small-pox; distinguished from inflammatory fevers by the longer period which elapses after the application of the exciting cause, having a rash or exantheme peculiar to itself, being essentially and highly contagious, occurring in general only once in a lifetime, running a determinate course, almost constantly attended with vertigo, tinnitus aurium, delirium, and stupor, requiring that the strength should be preserved; obtaining a crisis in typical cases on the 14th day, proving fatal from excessive debility or sudden total loss of nervous power, and exhibiting after death scarcely any remarkable change other than congestion and softening of the solids, liquidity of the blood, and rapid disorganization, were all prominently set forth.

25. I must refer you for a particular detail of the argument, in this stage of the subject, to the twelfth, seventeenth, and eighteenth volumes of the *British and Foreign Medical Review*, but especially to the striking facts brought out in the investigation of the matter by our American brethren, and for a lengthened recapitulation of the whole in the volume for 1851. It is only during the last twenty years that the ulcerated state of the ilio-cæcal glands, as essentially characteristic of a variety of fever, and the question of the difference of the nature of this fever and of typhus, have laid hold of the professional mind in the United Kingdom. During the latter half of the last century, the views entertained of fever by British practitioners were almost universally constructed after the formula either of Cullen or of Brown. Neither of these writers were conversant with the personal observation of disease, and the inspection of the dead from fever was rarely and imperfectly performed. The fear of debility, either immediate or prospective, benumbed the profession, and the stimulating treatment not only of typhus, in which it was eminently useful, but also of those continued fevers, in which the signs of debility or malignity were induced by inflammatory complications, was widely and often most disastrously practised. It was owing to the beneficial effects found to accrue, first from purgatives, and afterwards in a more striking and incontestable manner from blood-letting, in the treatment of tropical fever by Mosely, Rush, Jackson, and others; and to the unquestionable efficacy of the same means in cutting short or curing the analogous fevers of the South of Europe, of the Mediterranean in particular, as also to the evidence afforded by the experience of our army surgeons in Zealand of the salutary effects in atmospheric fever of intestinal

and sanguineous evacuations, whether natural or artificial, that an opposite tide of opinion on the subject of fever set in with the present century in Great Britain, which, for the first thirty years, exalted the evacuant system to an equality with anything which it had ever obtained at the hands of Galen, Botallus, or Sydenham.

26. Epidemics of typhus originating in contagion, marked by measly eruption, and treated largely and happily by wine (*dosi minime parca, et sæpe repetita*), and other stimulants, appeared in different parts of the kingdom at this period, as they must always have done (*Webster's Collections*, vol. i.), sometimes alone, at others mixed up (*Hamilton on Purgative Medicines*) with the continued fever of the season; and, sometimes, epidemics of inflammatory fever dependent on atmospheric causes, with a determination to the head, or to the head and liver and bowels, prevailed, and were treated more or less energetically by blood-letting.

27. We are indebted to Dr. Thomas Sutton, a physician to the forces, for an account at this time of what he called a remittent fever, which prevailed among the soldiers in the south of England during 1799, 1800, and 1801, and which bears internal evidence of the disease having been the British *hemitritæus* or enteric fever. "Though several symptoms," he says, "of typhus may appear to occur in this disease—for instance, a considerable debility and prostration of strength, the confused state of the intellect, with affection of the head, the pulse appearing at times quick, feeble, and intermitting, &c., yet there are many circumstances which differ from it in this fever. The pain in the head is more violent and intolerable; a cough and affection of the chest may, in most cases, by a minute investigation, be discovered; the tongue, though not in all, is early, in most of the cases much coated, and its sides and extremities exhibit a considerable inflammatory redness; the delirium is of a violent kind; the heat in the skin in the paroxysms is most intense, the pains in the back and limbs very great, and the disease mostly comes on with considerable rigor.

"Venesection was found the most effectual means of mitigating these symptoms, and the most prompt and decisive remedy for arresting the progress of the disease. The quantity of blood taken away should seldom be less than twelve ounces or more than twenty-four, except in very urgent cases; nor should the cure be trusted to one or two venesections, but the lancet should be employed once or twice a day, according to the urgency of the case, until a considerable amelioration of the symptoms takes place.

"The signs of amendment will be a mitigation of the pains in the head, body, and limbs, and a relief of the pectoral symptoms while the tongue acquires a natural appearance; but if it remains'

coated and red, though the symptoms seem to have given way, it often happens that they return with considerable violence, for the appearances of the tongue indicate that the inflammatory tendency in the habit remains. It will be often prudent, therefore, in such cases, to draw away blood in a moderate quantity, though no other symptom seems to demand it.

“When the disease is treated as typhus, and recourse is early had to wine, opium, bark, camphor, and other stimulants, the following appearances generally occur. In a short time stupor and delirium come on; the tongue becomes brown and dry, is protruded with difficulty, and remains out of the mouth of the patient with a seeming unconsciousness of the circumstance, or is withdrawn with a sort of trembling involuntary effort. In a few days the teeth are covered with a black sordes, and the tongue with a black fur or pellicle; the eyes become muddy and watery; the countenance vacant; the remissions of fever less perceptible; the delirium or stupor unabated or increased; the skin is hot, and for the most part dry and harsh, though in some partial, and in others profuse sweats break out without relief.

“In one instance of the occurrence of the disease when treated as typhus, out of thirty-seven patients received into the hospital eleven died.

“In another, where the same treatment was pursued upon a moderated plan (that is to say, without pursuing the use of the bark, opium, wine, &c., in the early stage of the disease), out of ninety-two patients eighteen died.

“In another, where the disease was treated as synochus, where moderate bleedings and evacuants were employed in the beginning of the disease, and the usual remedies for typhus were afterwards resorted to, the mortality was upon the average of three in twenty.

“By the treatment in which venesection has been relied on as a principal remedy, the greatest average of deaths, in any of the instances in which that plan of cure has been adopted, does not exceed one in twenty.”—Vide *Ed. Medical and Surgical Journal*, vol. xiii. p. 370.

28. Dr. Sutton's treatise was little known—scarcely beyond the quotation I have made from the pages of the *Edinburgh Medical and Surgical Journal*, and I am ignorant whether it contains information on the seat of the fever which it describes. The term remittent fever was applied both by Sydenham and Morton, and afterwards by Fothergill, to the endemic autumnal fever of England, and, agreeably to the nomenclature come into use in his day, the same fever was described as a typhus by Dr. Willan. It often prevailed, according to Dr. Short, grievously as an epidemic throughout the whole nation, and it was believed, both by the people and physicians, that the dysentery, or “the griping in the guts,” as it was frequently termed, with which it

was then often connected, was the fever turned in upon the bowels. There is no notice of purging in Dr. Sutton's cases, but the red state of the tongue, and the alleged necessity of continuing to detract blood till this was removed, indicate distinctly that the bowels were believed to be inflamed.

29. It is an amazing fact, that while our continental brethren were so busily, extensively, and with such success employed as we have seen them to have been, in ascertaining the natural history and proper treatment of typhoid or enteric fever, no similar measure of attention was directed to the subject in this country till after the publication of Louis' work in 1829. Dr. Bateman, in 1810, described some continued fevers in London, in which the bowel affection was very distressing and unmanageable, and respecting which the suspicion suggested itself, that they had been induced by the employment of purgatives. A similar fear began to be entertained by others, but the only record of the actual presence of enteric fever amongst us at this time was that given (Ed. Med. and Surg. Jour., vol. viii.) by an acute, intelligent, and accomplished practitioner in Paisley, the late Mr. Muir, of an epidemic in that place in the spring of 1811. I speak of this the more readily, from having, like Thucydides, been a sufferer in my own person, although not treated by Mr. Muir: "*αὐτὸς τε νοσησας, καὶ αὐτὸς ἰδὼν ἄλλους πάσχοντας.*" The mortality was very different from that of the Athenian plague, being in Mr. Muir's practice one only in thirty-two cases. The tongue was loaded or very red, the pulse very quick, often fluttering and almost imperceptible, with great prostration of strength, delirium, seeming fatuity, and sometimes diarrhœa and pain in abdomen. Imperfect crisis began about the fifteenth or sixteenth (in my own case the twenty-first) day; but the fever sometimes remained unmitigated to the fifth week, occasionally with purging. The death took place on the twelfth day, after the passing of a large quantity of grumous blood by stool; and Mr. Muir asserts that, in his experience, dissections of those who died of lengthened fever seldom failed to detect inflammation most frequently in the abdomen. His practice was to give an emetic, which, he says, sometimes cut short the disease, and afterwards to bleed to the extent of eight or ten ounces, using at the commencement purgatives, and afterwards laxatives only, along with a remedy which I have since found invaluable in the same disease, a large flannel roller round the trunk.

30. The writings of Ploucquet and Clutterbuck, asserting fever to be an inflammation of the brain, and of Beddoes, that it is always an inflammation although of variable seat, had, in the first decade of the century, added their theoretical weight to the practical experience of our military and naval medical officers on the utility of blood-letting in destroying or mitigating fever; and the gradual but steady, and, occasionally, the very rapid increase,

of continued fever and of typhus in Dublin, and afterwards throughout Ireland and Great Britain, gave ample opportunity, in the succeeding twenty years, to test the merits of the remedy. These diseases were universally considered, whatever the duration, presumed seat, cause, complications, association with petechiæ, or with measly eruption, or the treatment which they demanded, to be one; although, according to the leading symptoms, the disease was often distinguished as cephalic fever, or enteritic fever, &c. The mortality varied according to the admixture of continued fever and febriculæ, from about one in five to one in sixty. Along with the cerebral form of continued fever, complicated, perhaps, with petechiæ, typhus with rubeoloid efflorescence, slightly elevated, appearing on the fifth or sixth day, and becoming livid in the stage of collapse, was seen and alleged by Dr. Barker to give a protection against future attacks; and along with the bronchial and hepatic varieties of continued fever, those who wrote on the epidemic sometimes referred to cases complicated with intractable diarrhœa, going on to the fiftieth and sixtieth days, and often ending in death.

31. Dr. Cheyne, in his subsequent account of enteric fever in 1833, states that it had been epidemic in Dublin, under his own observation, first, in 1799 or 1800; again, in 1816; a third time, in 1826-7; and again, during the winter of 1830-1. Incidental notices of the disease occur in some of the Reports of the Cork Street Fever Hospital, and some well-described cases and dissections of it appear in the Meath Hospital Reports as early as 1827; while, in London, Dr. Tweedie recorded, in 1830, the inspections of a number of cases of continued fever, in which thickening and ulceration of the Peyerian and Brunnerian glands were observed, precisely as in the fever of Paris.

Throughout the same period, the fevers brought into our own hospital here were precisely of the mixed kind which I have just spoken of; and, in my own rural practice in the neighbourhood, down to 1827, along with occasional instances of typhus which could be traced to contagion, nearly one-third of all the fevers I saw were complicated with affection of the bowels; and several of those so complicated died under violent cerebral symptoms, others with profuse intestinal hemorrhage, some with peritonitis, and some from marasmus, the product of disease in the mesenteric glands.

32. The writings of Broussais became familiar to the profession in this country soon after the termination of the war in 1815, as did also in 1827-9 the researches of Lermnier, Andral, and Louis, by whom Broussais' statements were modified; yet it is remarkable that, if we except two imperfectly detailed inspections by Dr. Mills in 1810-15, and two other more copious cases by Dr. Abercromby in 1819, there was no attempt to connect the phenomena of fever with ulceration of the glands of the small intestines

by anatomical researches in Great Britain, till the admirable exposition of the subject (corresponding in every particular with the delineations of Petit and Serres) by Dr. Bright in his Reports in 1827.

33. Soon after this, several histories of epidemics of enteric fever in Germany were published, in which the affection was styled sometimes abdominal typhus, by which name it had been described here ten years before by Autenreith; at others enteric typhus, or ulcerating typhus, or typhous suppuration of the intestines; but, barring Dr. Cheyne's account of the disease, under the name of gastric fever, in the 'Cyclopedia of Medicine,' no detailed account of it is to be met with in the works of British writers till that of Dr. Craigie in 1836.

34. The morbilliform eruption of typhus, and the affinity of the disease to the contagious exanthemata, were explicitly referred to by Dr. Alison in 1827; in 1831, by Dr. Roupel; and in 1835, Dr. Peebles, who had formerly practised in a district in the vicinity of Glasgow, in which, during winter, continued fever, with ulceration of the ilium, is seldom absent, described typhus as a special infectious exantheme, the eruption as constant, regular, and distinctive, as in any of the admitted contagious exanthemata; and the late Dr. Perry, of this hospital, followed, in 1836, on the same side.

In 1835, Dr. Lombard of Geneva, and, in the following year, Dr. Gerhard of Philadelphia, who had both studied typhoid or enteric fever with great care in Paris, gave an account, the one of his inspections of typhus cases in Glasgow and elsewhere in this country, and the other, of those which he made in the same disease in America, both representing the total want of correspondence in the pathological conditions of the two affections. In 1836, I began the study of the differences of the two fevers, then both prevailing here, but was interrupted by an attack of typhus, caught from a patient in one of the wards, and did not resume the inquiry till my appointment as a physician to the Fever House in 1839. Besides many other publications on the subject by excellent observers in other schools, Dr. Alexander P. Stewart of London, formerly a distinguished *interne* of this hospital, read, in 1840, an elaborate and valuable paper before the Parisian Medical Society, which afterwards appeared in the fifty-fourth volume of the Edinburgh Medical and Surgical Journal, under the title of 'Some Considerations on the Nature and Pathology of Typhus and Typhoid Fever, applied to the solution of the question of the identity or non-identity of the two diseases.' Dr. Stewart's opinions were based on observations made in the wards of this institution, and his paper has always been regarded as a highly important contribution to the history of the subject. In 1846, I published an outline view (Edinburgh Monthly Medical Journal, No. 70) of my present opinions on continued fever and

typhus, along with an extended but condensed exposition of the circumstances in which enteric fever and typhus agree and differ; and the late Dr. Robert Cowan, Dr. Davidson, Dr. Andrew Anderson, and Drs. Orr and Steele, all officers in this hospital, have also added valuable contributions, although of a more incidental kind, to the exposition of this question.

35. In conclusion, I would submit that, in the long course of inquiry now gone over, reaching from before Hippocrates to the present day, there is continuous evidence of the existence of two separate and essential, or primitive forms of fever, possessing many features of resemblance, and yet more of difference the one with the other, and which, ever and anon, gave occasion to discussion among medical men on their nature and relations. The one fever, or our typhus, being distinguished by independence of situation, season, or temperature, arising spontaneously from human effluvia, as in crowded camps and jails, but possessed of eminently contagious properties, and being often therefore imported from distant infected localities; having a measles-like efflorescence on the skin as early as the fourth day, profound and diversified affections of the sensorium, great prostration of the vital powers, a disposition to putrescency, and requiring cordial food, wine, and other stimulants for its treatment. A crisis, in favourable cases, taking place on the fourteenth day, followed by a good recovery; but death often happening on the twelfth day, the necroscopical appearances being chiefly negative, or only such as are occasioned by fluidity of the blood, and by softening of the solids.

The other fever, again, or our enteric, being of indigenious origin, arising in damp and cold seasons and countries as a simple sporadic fever, but, under special climatic and hygienic conditions, developing malignant, epidemic, and also contagious qualities. Its prominent symptoms manifesting themselves much in the abdomen and thorax, the cutaneous eruption papular in form, inconstant, comparatively scanty, and appearing only about the eighth day; the disposition to crisis feeble, and seldom occurring before the twenty-first or twenty-eighth day, and the tendency to local complications so strong, that recovery often did not commence before the eightieth day. When death was the result, it was usually from inflammation, and sometimes perforation of the bowels, and the appearances on dissection were distinctive of inflammatory degeneration of the mucous membrane, the follicles, and other glands of the intestines. A moderately antiphlogistic, a soothing, cooling, and expectant treatment, such as one or two bleedings, a mild diet, fomentations to the belly, and abstinence from wine, spirits, or any kind of fermented liquor or stimulating food, was that which was suited to the disease.

(*To be continued.*)

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ORIGINAL COMMUNICATIONS.

- I. *Clinical Lectures on Typhus and Continued Fever.* By CHARLES RITCHIE, M.D., one of the Physicians of the Royal Infirmary, Glasgow.

LECTURE III.

(Continued from page 274.)

IV. I think it was M. Pinel who, speaking of the published history of a certain epidemic fever, characterized it as being a model of confusion and learned obscurity. I wish to refer with all respect to the labours of medical men, but I have long felt that what the French nosographer said of the description of one kind of continued fever, must, as such things are managed, necessarily be true of the medical history of every general fever epidemic. In the accounts, for example, of the fevers which prevailed in Ireland, and thence in the chief towns, and often in the pastoral parishes of this country and of England, in 1835-6, &c., you meet with frequent intimations that the disease presented itself as an ephemera, as a febris cephalica, as a febris pulmonica, gastrica, enterica, and as a typhus. This is excellent, if understood as a detail simply of the diseases actually seen. But in dealing with the subject as a matter of science or literature, the mode from time immemorial has been quietly to assume that every fever is a variety of one parent stock, and to proceed with the investigation of details on this principle. They go on thus to say, that the fever commenced with a sense of coldness, weariness, mental and physical weakness, and depression of the heart's power, with some frequency of the pulse; followed by frontal, dorsal, and limb aches, with general soreness, hot skin, and flushed countenance. That in some of the cases the fever was arrested at the end of the week, even after the appearance of red spots or typhoid eruption, as they vaguely speak; but that, in others, all the symptoms at this time began to assume a grave character, and that, in 47 per cent. the head, in 20 per cent. the chest, and in the remainder the

bowels, or the liver, were the chief seats of complication. They continue to inform us that the state of the cutaneous tissue was very diversified. Sometimes there being no eruption, at others petechiæ, often of a livid kind, and in a few that there were vibices. Sometimes, they say, the eruption was more diffused, occasionally papular, and comparatively scanty, at others very general, and more like a rash; and that, in some instances, sudamina and desquamation of the skin were noticed, and that, in others, the efflorescence on the skin was observed to change from a rose to a livid colour, and then ceased to disappear on the application of pressure. Fifty per cent. of the patients, they tell us, had diarrhœa. In about a third of these the stools were black in colour; in another third they were greenish, and in the rest they were of various colours. The mortality was one in thirty, and the appearances, on inspection, corresponded a good deal with the previous symptoms, although in some instances, which had exhibited during life strong symptoms of disease within the cranium, and also of disturbance of the bowels, they add that nothing beyond congestion of the respective organs was discovered; while in others, in which unmistakable appearances of intense typhus were manifest from the end of the first to that of the fourth week, great inflammatory disorganization of the bowels, and sometimes of the lungs, was detected after death.

They say that it was remarked that bleeding was not so useful in cutting short many of the cases, as it appeared to have been in one or two others, and that in some patients, various portions of whose skin became gangrenous, it even seemed to have done harm. In this variety, they continue, the symptoms were much alleviated by stimulants.

Such is a specimen, really not exaggerated, of many of the fever histories which have been published amongst us, and the attempt to arrange such materials, and to extract from them precise and accurate principles—always on the assumption that typhus is a variety of continued fever—is as embarrassing as it is futile. The one moment such a historian is compelled to expatiate on the highly contagious quality of the fever as it appeared in one district, with a mortality of one in fifty, and the other, on the proofs of the same property, in certain cases, in another quarter, in which the deaths rose to one in four or five. Now he speaks of the perplexing fact, as he perhaps terms it, that certain individuals who were affected with deep sopor (typhus, second week), required to have wine exhibited to them every hour, while others (continued fever, cephalic species) were much benefited by spontaneous or artificial loss of blood, sometimes to the extent of several pounds. Then he refers to another fact, that in the second week of the fever great prostration of the vital powers, and dissolution of the strength, occurred in a number of the cases, and that in some (typhus) of these stimulants were well borne, and of

great service; but that others of them (continued fever, enteric species), especially those in which diarrhœa had been troublesome, could not, at this stage, bear either wine or the lancet. Again, he states it as another curious circumstance, that in some of the pulmonic cases (typhus, with congestion of peripheral pulmonary arteries and veins), alike distinguished by great exhaustion and inability to bear depletion, the secretion from the bronchia was scanty, and like glue, and in others (continued fever, bronchial species, with subacute bronchitis) profuse and liquid even to suffocation. Or it may have struck him that certain of the patients (typhus) were greatly comforted, perhaps, by the frequent reception of small quantities of food, and that, on the contrary, others (continued fever, enteric species) were as uniformly excited by eating, and fell into watery griping purging; and he may even have observed that the former stood purgatives well, while in the latter intestinal hæmorrhage and peritonitis appeared to follow their use. And so we find him in every division of his puzzling task seeking to balance himself, after a certain fashion, on the deceitful antipodal facts of his inquiry, and, at length, arriving at his "general results," is it surprising that these should be both incorrect and vague? One is thankful that at least he is not, besides slumping up typhus with his fever patients, and speaking of them gravely as identical diseases, obliged to do the same with half a dozen of the local inflammations, as in the days of Sydenham, and those before him.

It will be in the recollection of some of my hearers, that I alluded to the unacquaintance of medical students with the practical history of fevers, as a fourth and concluding inducement for taking up their study in this place. Need I enlarge on this point? I suppose I must speak to the consciousness of every one who hears me, that whatever they may know from reading or systematic lectures of these affections, they know little of them from practical investigation. And if writers on practical medicine are such imperfect guides, and, also, so disunited, as we have seen them to be, on every element and principle of this inquiry, what can we hope for from those who are only entering on its investigation? Indeed, I think it is dependent on the neglect of students to observe fever in hospital with something of the interest they feel in surgical disease, as well as on the state of our literature, and perhaps also on the more complex, extended, varying, and transient nature of the phenomena of that affection, compared with those of simple inflammations, that there is a greater lack of sound views of fever in the medical mind in general, than on most other departments of pathology. We often see physicians who are distinguished by much diagnostic acumen, perspicuity of judgment, and efficient simplicity of treatment, while they have to do only with local disease, who astonish us much by the unsettledness of their opinions, and the extraordinary character of

their notions when they come to deal with fever. Fever alters with every season of the year, and assumes also a varying complexion in the same seasons in different years; but, besides this, some form of continued fever is ever breaking out, often at prolonged intervals, with great epidemic virulence, or there is a sudden outbreak of typhus after a long period of quiet. On such occasions medical men are often taken by surprise, and the annals of the profession are full of descriptions of the "new fevers," which are then supposed to have for the first time come down on afflicted humanity. The epidemic is as old as the world, and extended and accurate delineations of it lie stereotyped on many a neglected page, or it may be known even by experience to some of our senior brethren; but to the young medical practitioner it is strictly a *terra incognita* in the mistiness and distance, and the uncertainties of which, should he be able to distinguish anything at all, it is as if he saw men as trees walking. Is it wonderful in such a professional exigency, then, that, being destitute of a precise and correct knowledge of the pathology of the disease, our minds should be filled by some phantom principle, such as bile, spasm, debility, or inflammation? or, in undertaking the treatment of it, that our powers of observation and judgment should be suspended by the influence of a name, as that of malignant typhus, low nervous, brain, or gastric fever?

Such, accordingly, is the testimony of experience, the actual history of many a visitation of pestilential fever; and I say no more than is the fact in every department of human knowledge, that, were your sustained attention directed to the study of fever in the manner it is to other subjects of practical interest in this house, or according to your copious opportunities in the wards up stairs and in the fever house, the evil and odium of such a state of things would speedily disappear.

It might be said, and indeed it has been said, that the plan of these lectures corresponds more with the idea of systematic than of clinical instruction. I would desire to avoid this, as, in general, a pernicious mistake; but, if there be any force in the reasons I have adduced for undertaking the task, I might be forgiven if I should sometimes appear to be betrayed into such an error, seeing that my whole visit, and that on every visiting day, and at every bedside, is in reality a consecutive and protracted clinical lecture.

Having premised these observations, I proceed to speak more in detail on the two general divisions of our subject, into

I. Continued Fever.

II. Typhus, or Typhus Exanthema.

And first in regard to Continued Fever.

The essential features of continued fever are the primary influence of its exciting causes on the cerebro-spinal axis, and afterwards, through this as its point of departure, on the other sys-

tems; the universal and sustained or continuous affection, to some degree, of all the animal tissues, and of most or of all the organic functions; deterioration of the blood; the simulation during its course of other diseases, both inflammatory and nervous, under a low type of action; periodical disposition to sanative crisis; a habit of prevailing epidemically, and the capacity of propagating itself by contact, whether actual or mediate.

Fever is dependent primarily on causes affecting either the temperature or constitution of the atmosphere, whether these latter are what are called meteorological, or proceed from vegetable exhalations, or from those of dead animal matter; but, when once established, it is communicable by contact.

Continued fever differs from febrile eruptive diseases, in that atmospheric changes, such as heat and cold, act as immediate exciting causes, while in typhus, variola, &c., they are predisposing only; and it is opposed in nature to local inflammations, by the fact of the noxious operation of such causes falling, in it, on the nervous centres, and not merely, as in them, on some insulated portion of the organism.

It is constituted by a series of diurnal revolutions, each, in general, having its commencement in the evening, and being complete in itself.

The first effect of the exciting causes of fever on the cerebro-spinal axis seems to be the induction of a state of depression, which manifests itself in mental torpor, and prostration of the animal forces, impaired secreting power, centripetal sanguineous congestion, sense of cold, and neuralgic pains, especially in the back and limbs. To these succeed vascular reaction, followed either by some discharge and a crisis, as in the ephemera, or by sub-acute inflammation of various organs, alterations in the constitution of the blood, secondary disturbances of the brain and nerves, with other functional lesions, varying, according as the head, the lungs, or the bowels have become the main seat of the fever. Throughout the succession of these diversified pathological conditions, a disposition in the symptoms to augment and remit once, sometimes twice, daily, attended with perspiration, and not unfrequently with bleeding from the nose, may be observed; and in some cases on the 5th day, in others on the 7th, and in others again on the 11th, 14th, 21st, and 28th days, the pyrexial condition, unless death prevents, either entirely or partially subsides, and is succeeded by a convalescent period, usually of somewhat more than the duration of the fever itself, and which ends in the more or less perfect re-establishment of the health, or in one or more relapses.

Continued fever undergoes changes in its aspect, symptoms, duration, and course, and also in its organic complications, according to the climate, the period of the year, and the constitution of the patient. Certain of these forms observe a uniformity of character in the same climatic circumstances, and appear capable

of propagating themselves likewise as distinct species by contagion; while it is nevertheless consistent with experience, that a plurality of individuals, of very opposite kinds of constitution, when succumbing under the same exciting causes, may exhibit the symptoms of different species of the disease.

Continued fever, although a disorder of the whole body in every possible sense, does not, to use the words of Fordyce, affect "the various parts of the system uniformly and equally, but, on the contrary, sometimes one part is much affected in proportion to the affection of another part."

Continued fever thus presents itself:—

1. Having its primary and chief seat in the cerebro-spinal axis, and in the substance of the brain. The cerebral form, or simple cephalic fever.

2. Having its initiatory and principal hold in the cerebro-spinal system, and in the bronchial membrane. The bronchial species, or simple catarrhal or influenzal fever.

3. Affecting the brain and spinal marrow simultaneously with the stomach, duodenum, liver, and pancreas. The gastro-hepatic form.

4. Exhibiting more or less primary lesion of the nervous centres, associated with inflammation and other changes in the mesenteric glands, and in the follicles of the ilium, cæcum, and sometimes of the other bowels, and also in the bronchial membrane. The enteric form.

Each species of continued fever is met with, showing modifications in the style and keeping of the symptoms which are dependent on accidental and extrinsic circumstances. Thus, in all the species, the general phenomena may become developed in a mild and regular, or in a severe and irregular way; or they may exhibit either a uniformly sthenic or an adynamic complexion; or the case may manifest, in its commencement, an inflammatory, and in its progress a nervous or asthenic character, and sometimes there may be a remittent tendency in the symptoms, and at others more of continuity. On some occasions, again, the more specific phenomena of each species will fail of being so strongly marked as they are in the typical specimens, and there may be then observed a disposition in one species to merge into some other. The epidemic bronchial fevers of the spring months thus slide gradually, in certain hot summers, into those which exhibit a similar epidemical preponderance of bilious and gastric symptoms, and these again, as the autumn advances, acquire more of the enteric complexion.

In continued fever, besides, some of the modifications in the configuration of the symptoms produced by the different causes I have referred to, constitute true nosological varieties. They consist of a special and definite arrangement of phenomena, only having their pathological seat in the same organs with some other

equally special concatenation. Of this kind are the varieties of gastro-hepatic fever.

It has been a much-vexed question, whether a fever of even a day's duration can exist without a local inflammation as its cause. This difficulty, you will perceive, involves a second question, and one which has excited the profession more than any other—I mean the proximate cause of fever. Into this discussion I do not enter. It may be objected, indeed, that in the description of vital changes which I have asserted compose a fever, irregular distribution of the blood and sanguineous congestion are permanent elements. This is admitted, and it is no less true, that, unless these are speedily terminated by natural or artificial discharges of the blood itself, or of one or more of the secretions, an inflammatory condition is induced as a secondary complication. The point of time at which exudation globules begin to be eliminated, will vary with the climate and other circumstances, only, at whatever time it occurs, it is as a consequence of previous circulatory disturbance, and is modified in its character, as is the intervening sanguineous excitement itself, by the antecedent affection of the nervous centres. In inflammations, the increased action of the heart is the effect of the previous local disease. In fevers, the consecutive peripheral changes of function and structure react both on the vascular and nervous systems, but they are not essential to the existence of the disease. In the ephemera, there are no secondary affections, and the question remains—is diary fever the effect of a primary cerebritis, gastritis or other inflammation, or is it a something distinct in nature from every inflammation?

We shall turn for a little to the consideration of the simplest forms of fever—of ephemeral fever and the febriculæ. I think it better to speak of these fevers in an etymological than in a general sense, although, in this latter way, the term febricula has been applied to fevers which extend to a week, or even to ten days. In my first lecture, I gave an example of a form of ephemeral fever arising from the depressing influence of cold and moisture. A striking example of this kind is seen in the affection so often produced in the puerperal or lactating woman, by the action of cold on the general surface. The susceptibility of the nervous system is sometimes so exaggerated in this state, that the most inconsiderable moral or physical causes are sufficient to induce a paroxysm of fever. From mismanagement, the skin gets covered with perspiration, evaporation occurs suddenly, and a chill is produced. Febrile reaction takes place, and, owing to the means used by the nurse to promote it, is in general excessive, and followed by profuse sweating. You usually see the patient at this point, and on examination of the uterus, mammæ, and other organs, are unable to detect local disease. The cold has been applied to the general surface, its influence has been communicated to the nervous centres, and irregular distribution of

the blood, succeeded by febrile reaction, have been the consequences. Should the affection not end with the perspiration which ensues, another cycle of similar pathological changes may become complicated with inflammatory congestion of the mamma or uterus; and, sometimes, when the original application of cold has been limited to either of these organs, such topical acute congestion of them becomes the point of departure to all that succeeds. In this case you have a primary inflammation to treat, in the other an ephemera merely, which has sometimes a secondary inflammation associated with it.

When the heating system of nursing the inlying female is followed out, the most inconsiderable mental agitation is sometimes followed by a sudden chill and violent fever, ending in the eruption occasionally on the skin of minute transparent vesicles, called sudamina. Sometimes each of these has a base of a red colour, and often the rough, red-coloured elevation of the skin appears without the colourless vesicular apex, and constitutes the true miliary eruption.

These unfortunate cases are always the fruits of mismanagement, and it is one of the many advantages which the childbed patient reaps from the employment of the well-instructed medical practitioner, instead of the midwife, as her accoucheur, that such incidents seldom now occur in practice. Your good success here, however, as in every other pursuit, depends on your judicious attention to details. To preserve your puerperal patient from fever after her delivery, you must give her your minute care before it. An excellent mean is to enforce, for at least a fortnight previous to delivery, the daily use of some aperient. Another is to have the general surface, if possible, and if not, as much of it as may be, run over daily with a wet towel, and then briskly rubbed. By these expedients, with free exposure to the open air daily, and the use of a generous regimen, the susceptibility of the nervous system is much moderated.

After delivery, the food, as a general rule, should be strictly farinaceous and solid, with the smallest quantity of liquids possible, till the fifth day. The temperature of the apartment should not exceed 65°, and the skin ought to be kept cool by tepid sponging; and as the most effectual mean of preventing shivering, your patient should never be permitted even to approach to a sweating. A window in some distant apartment ought, in good weather, to be kept more or less open, and when the skin of the patient offers to break out, the air should be admitted by gently raising the bedclothes. When found in a perspiration, as after sleeping, the moisture must instantly be dried up with a napkin.

From the fifth day onward, if you have succeeded in carrying your patient through the establishment of the milk without any access of fever, you may begin to feed her; and, besides a proper attention to the uterine and alvine discharges, you will go far to

obviate the tendency to ephemera, or weids, as they are in these circumstances termed, by causing the limbs and different aspects of the trunk of the body to be successively run over every day with a sponge soaked in tepid vinegar, and each part immediately made dry and red by brisk rubbing with a couple of warm towels.

A common cause of these weids, or diary fevers, is the sudden diminution of the temperature of the air to which we are so exposed in this variable climate; and another is the great reduction of the external heat which so often takes place after midnight. Should the nurse not be forewarned of both of these possible occurrences, she will fail to guard against their bad effects, by adding a blanket at the proper time to the coverings of the patient, and the result will be an attack of ephemeral fever.

The treatment of a puerperal ephemera can never be conducted on the principle of the *garotte*, as is often attempted with other sudden accessions of fever. It should be strictly palliative. The proper indication is to shorten the successive stages of rigor, heat, and sweating. This is best done by such means as will lessen the intensity of the respective conditions. In the cold stage, avoid great accumulations of the bedclothes, and violent application of external heat. Obtain a proper temperature to the bedroom; give your patient a moderate dose of laudanum and antimonial wine in hot gruel; apply warm bran to the region of the uterus and to the mammæ, and have the general surface, the spine especially, and the tracts of the larger nerves in the lower limbs, dry rubbed with a hot flannel. When the hot stage has set in, endeavour to moderate it; give small doses of the acetate of ammonia; sponge the limbs freely with water, and should a laxative be requisite, administer a blue pill, or a moderate dose of calomel. Take care that the breasts are kept empty by means of the nurse or of a breast-pump, and avoid much liquids. In the sweating stage, the perspiration must not be encouraged; the air of the apartment should be kept dry and pure, although it ought not to be allowed to fall below 58° or 60° of Fahrenheit; and the skin should be dried from time to time with a warm flannel. After the bowels have been opened by a mercurial purge, aided, if the secretion of milk happens to be profuse, by some saline, a couple of grains of sulphate of quinine, with ten grains of aromatic sulphuric acid in some water, may be used three times daily.

In the same lecture, I mentioned a second variety of ephemera, caused by insolation and fatigue. A third form is often met with after an error in diet. There is fever, sometimes sopor, violet-coloured and foul tongue, and general malaise, with some disposition to vomit, or actual vomiting of bile, with or without diarrhœa. This form is seen in adults, generally females, who have been indulging, secretly perhaps, in wine or spirits, or who have loaded their stomachs with food; and you will often meet

with it in towns, in children who are much confined in school. Relief is got by diluents and abstinence, or purgatives.

A fourth variety is allied closely to the one I have just named. It arises from habitual costiveness, and torpor of the portal circulation. There is languor, drowsiness, feebleness of the intellectual functions, chilliness, and discomfort, succeeded by a rigor, head and limb aches, white loaded tongue, offensive breath, depraved taste, nausea, sleeplessness, thirst, hot skin, and frequent pulse. Free discharges from the bowels remove the symptoms.

Again, in all seasons of epidemic fever there are individuals, who, after exposure to intercourse with persons having the disease, are seen with flushed countenance, hot skin, frequent pulse, headache, and general soreness, which have been preceded by chills or rigors. You have no doubt that such patients are true subjects of fever, when, to your surprise, after some purging, or a profuse sweat, they are suddenly freed from every symptom. These appear to be examples of individuals whose constitutions successfully resist the full effect of the epidemic influence.

In all the varieties of ephemeral fever, it may happen, should the constitution of the patient be good, or the exciting cause not intense, or the treatment be judicious, that the cycle of changes which they display shall not occupy more than twenty-four hours. More generally, there is an amelioration of the symptoms only at the end of the first day; and it is not till two diurnal periods have elapsed that the patient is free from disease; and sometimes, from an opposite character of the constitution, or of the cause, or of the treatment to what I have said tends to cut short the paroxysm, it may be even the third or the fourth day before the fever is ended.

There is an important distinction, however, between ephemera which thus extend to the fourth day, and some short fevers which have a crisis on the fifth or seventh day. In delayed ephemera, the crisis is substantially on the first day, only its completion is hindered from want of vigour in the constitution, the presence of irritating contents in the bowels, or some other accidental cause. The amelioration begins at the end of the first twenty-four hours, and is progressive, for the most part, till completed. But in short fevers the aggravation of all the symptoms accumulates till the moment of crisis on the fifth day, and is succeeded instantaneously by a period of perfect absence of fever.

Another feature of distinction is, that often, in the last-named fevers, the interval of apyrexia is succeeded, notwithstanding every care which may be taken to prevent it, by a return of all the symptoms within a definite number of days. This is so uniform that it may, in some kinds of fever, be regarded as essential; but in ephemera, a relapse is contrary to the nature of the affection, and necessarily requires for its production the reapplication of the exciting cause. I think it was Sydenham who said that ague was the epitome of a fever, and this is precisely the character

of an ephemera. It is the true pyreblast, or rudimentary base of every other form of continued fever.

In diary fever, again, the symptoms never run so high as in those which are more extended; the average frequency of the pulse is from ten to twenty beats less per minute, the general distress is not so intense, and the sensorium is rarely, unless with children, affected.

In some short fevers, again, which I have seen prove fatal on the seventh day, and in others, naturally of longer duration, but which were cut short by death as early as the sixth day, softening of the liver, heart, and mucous membranes was well marked. Such an occurrence in an ordinary ephemera is obviously out of the question. I say ordinary, for there is nothing in the shortness of a fever merely which renders it incompatible with the greatest destruction of the tissues or amount of mortality. The sweating sickness of the 15th century was an ephemera. It had but one paroxysm, and thousands perished from it before that had ended. Those who reached the sweating stage of the disease often recovered.

When the exciting causes of ephemera are either absolutely or relatively of a potent kind, as in this pestilential form of it, there is sometimes no stage of reaction, and the case, instead of becoming developed as a diary fever, may prove fatal, simply from the depressing influence of the cause on the nervous centres. Thus, two gentlemen returning home from dinner, on foot, in a winter night, through the snow, one of them, the weaker of the two, was seized with apoplexy, and the other escaped with a smart ephemera. I suppose that Celsus had this fact in view when he said of one who was seized with headache, sopor, and stertorous breathing, that he must die within a week, unless it became a fever. It is told of a well-known, highly popular medical practitioner, who a short time since flourished in a famous English watering-place, that his professional success had its beginning in his rescuing a late noble earl from crapulous congestion of the brain by a powerful emetic. When the repletion happens to be less, or the excitability of the system greater, a fit of feverishness is all that happens from the indulgence. In some manufactories around Glasgow, particularly in those where a number of females are employed, ephemera is almost like an epidemic on the night on which they receive their wages. It is Fordyce who asserts that, in his experience, ten fevers begin in the day to one at night. This is more apparent than real, our inability in the day to fulfil the duties of life, proving often the presence merely of disorder which had commenced during the night. With the women in question, the symptoms usually begin a short time after retiring to bed. With many the indisposition proceeds only to the extent of colic, but in others the whole system is kindled up into fever.

I would return now for a moment to the question with which we commenced, as to whether an ephemeral fever can subsist without local inflammation as its cause. None of the examples of the disease which I have adduced afford evidence of such a necessity. A period of depression of the vital energies, inducing congestion of the internal organs and loss of secreting power, followed by a stage of excitement, by means of which the circulation is equalised and the secretions are restored, form the entire serial of pathological changes. There is no evidence of local lesion, or of a state of the nature of inflammation being present in any of the organs before the fever bursts forth, but rather the reverse. The system, also, after the febrile paroxysm has passed, is left in a condition of integrity, and often the general health is for a time even improved. Boerhaave said of Hippocrates:—"Meruit hanc laudem . . . quod non visa nullibi effinxerit." I would desire to make this principle a guide in every branch of clinical research; and, in respect to the question we have in hand of the nature of fever, to say with M. Rostan, that there are other diseases to which the animal economy is subject besides inflammation.

It will often happen to you, in your future professional course, to be called on to determine on the instant the precise nature of a sudden feverish illness. How, then, are you to decide that you have to do with an ephemera, and not with an inflammation or with some form of continued fever depending on contagion; or with typhus, or some of the other exanthemata, as scarlatina or measles? In ephemera, there is the absence of every characteristic symptom of local organic disease, and probably also of evidence of exposure to contagion of any description; and unless the bowels have been neglected, or there is much vascular fulness, or the debility and irritability of the system be great, the fever will have begun to decline before you are consulted; while, should the seizure be one of continued fever, the secondary complications, or if of typhus or variola, or other acute exantheme, then the characteristic eruption will have probably become developed, and, along with the increased constitutional tumult, afford sufficient guidance to the diagnosis of the case.

I have frequently been much chagrined at seeing, say a stranger servant girl, affected with ephemera, sent to the fever-house by some prompt "powder and lead" practitioner, and, it may be, despoiled with equal precipitation of her cherished tresses by our barber, before I had an opportunity to avert the mischief, or to consign her to a side-room, when this was in my power. In seasons of panic such incidents often happen, and I ascribe to the hasty admission of every febrile complaint, on these occasions, the explanation of a paradoxical statement made by Dr. Grattan, that the mortality of fever hospitals is greatest when the number of patients is least; or, as it has been announced by others, that when fever becomes epidemic, its intensity is not so great as when the

disease does not prevail epidemically. The experience of Dr. Grattan was derived from widely-spread continued fever in its different species, including a large proportion of ephemera, and short fevers, with some typhus; and the mortality ran from 1 in 16 to 1 in 32½. But in places like Dublin and Glasgow, inhabited by a large amount of the lowest poor, there is, and that in the absence of all epidemic influence, almost always a steady, though sometimes a slender, stream of typhus cases constantly flowing in to the fever hospitals. In such the mortality, although less than would happen in the same cases if deprived of fresh air, is always high, perhaps equal to 1 in 8; and there being fewer ephemerical fevers or febriculæ to counterbalance it, the percentage of deaths is, of course, greater than when these diseases are copiously admitted, as was the fact in the Irish epidemics. Let the epidemic, however, be one exclusively of typhus, and not of any form of continued fever, then there are no short fevers, febriculæ are rare, and the hospital mortality increases with the crowding, till I have known it to attain, under the most solicitously careful treatment in other respects, to more than one-sixth of the whole patients.

Barring the considerations I have mentioned, it will rarely happen that you will be betrayed into the mistake of pronouncing an ephemerical fever anything else than what it is; although, from a want of due attention to the condition of the various viscera on your first visit, it is not impossible that you may slide into the opposite error of supposing any other pyrexial disease as nothing but an ephemera.

I know of no remedy for this, save that, whatever the pressure of other avocations, you take means to know the actual state of every organ in your patient before you decide what his disease is, and that you do not prescribe for him till you have done this, even although it should not be before your second visit.

(To be continued.)

II. *On Disease of the Ear extending to the Brain.* By WILLIAM WEIR, M.D.

THERE are few medical practitioners who have not had under their care cases of purulent discharge from the ear, often continuing for a long time, and occasionally producing some headache, and more or less deafness. Such cases, as they may not be attended with much pain, and, in many instances, give rise to little inconvenience, are often not considered, either by the patient himself or his physician, as of much consequence, and are hence allowed to go on for years without any attempts being made to produce a perfect cure.

These cases are known by the name of "otorrhœa," which, however, merely means "a discharge from the ear," and is not, correctly speaking, a disease, but merely a symptom, and which may be the result of several different affections of the auditory apparatus. It is well known, however, that cases of this kind are sometimes attended by very alarming symptoms, in consequence of the affection spreading from the ear to the brain, giving rise to inflammation and abscess, indicated by most severe pain of head, more or less delirium, dimness of vision, or total blindness, coma, and death. Mr. Wilde, in his "Practical Observations on Aural Surgery," has a section on "Cerebral affections consequent upon Otorrhœa," in which he says, "A case of otorrhœa may continue for years without causing greater inconvenience than the loss of hearing, and the pollution from the discharge: the patient, however, becomes suddenly unwell; he has a shivering fit, fever sets in, and pain is experienced deep in the ear, and over the side of the head. Sleeplessness is almost invariably experienced, incessant delirium follows, from which, however, the patient can be roused and induced to answer questions rationally." . . . "From about the commencement of the attack, the discharge from the ear generally lessens, but seldom altogether ceases, while unconsciousness, strabismus, and even convulsions supervene, followed by all the symptoms of inflammation, effusion, and suppuration within the cranium."*

After death, in such cases, the dura mater has been found separated from the petrous portion of the temporal bone, and that part of the bone carious, while inflammation of the membranes and substance of the brain, with abscess in the cerebrum or cerebellum, point out the cause of the cerebral symptoms, and explain the extension of the long-continued disease of the ear to the parts within the cranium.

The following case, which occurred to me several years ago, shows well this extension and connection of the two affections, that of the ear and that of the brain:—

John Downs, aged 15, was admitted into the Royal Infirmary under my care, on 25th November, 1845. The following is the report of his state on admission. Is of a very anxious appearance, and only partially sensible. Lies on his back, rolls his head on the pillow, yawns and moans frequently, as if in pain. For two weeks has complained of a severe pain, referred particularly to forehead and occiput, with intolerance of light and sound. Thinks these arise from suppuration of right ear, to which he has been subject for eight years. General health has been long indifferent. Tongue furred; eyes natural; skin warm and dry; bowels open from medicine; pulse 60. *Cupping to six ounces; calomel and jalap.*

* Wilde's Aural Surgery, p. 427-8.

four bare walls, and everything removed from him by which he could accomplish his design—we could fancy, I say, such a one dashing his head against the wall, until he had extinguished life; but to think that a man, with a knife lying upon his table, and half a dozen of razors lying in an open drawer, besides plenty of other appliances by which suicide might have been accomplished, should take such a barbarous, brutal manner of taking away his life, is almost beyond belief. And I believe it is a case of suicide without parallel in its mode of accomplishment; and had he not lived to give such a clear, circumstantial account, not only of all that he did, but also of his motives for doing it, nothing would have persuaded me but it was a case of murder. I feel assured that there is not a single medical man who would have pronounced any other opinion than that which I at first formed; namely, that it was impossible for any man to inflict such injuries upon himself.

This, then, brings us to the second point to which I would draw your attention, which is the position in which this poor woman would have been placed, supposing the man had died at once, or had never given any statement of how the injuries were received. Here was an innocent person, who assuredly would have been tried for murder, and certainly a more clear case of circumstantial evidence could scarcely be imagined. Here is a woman, who had been living with this man in a state of concubinage. Latterly, they had been constantly quarrelling; and to such an extent had those quarrels gone, that he was anxious and determined to dismiss her from the house. They live alone, and in a cottage removed a considerable distance from all dwellings. She is under the influence of drink (which she was on the day of the accident); this man is found dead, with no one in the house but her; his death has been accomplished by violence, and in her possession is found a paper, by which she receives £12 a year after his death. Here then is a motive to induce the perpetration of murder. But then comes the most damning evidence of all. Medical men are sent for to inspect the body, and report; and I have no hesitation in saying, that all of us would have given it as our opinion, that the wounds had been the result of violence inflicted by another, and not by the individual himself. All this shows how cautious every medical man ought to be in the opinion which he may form as to the cause of an accident, or the possibility of a person committing suicide.

There are other two points in this case, to which I will briefly allude. The first is, the beautiful illustration this case gives of the distinction between dipsomania and delirium tremens. I think every one will admit, from the whole history of the case, and also from the person's former habits, that, for some time previous to the fatal act, he was labouring under mental aberration, the result of long indulgence in intemperance; and it was

the rash act which terminated in death. The shock produced upon the system, and the great loss of blood which ensued, acted as a salutary agent, and appear at once to have removed all the maniacal excitement which previously existed; because we find him, immediately after the act, not only calm and composed, but minutely describing the means he employed to accomplish his end, the motives which induced him to do so, and expressing his regret for what he had done, and a lively hope that the injury might not turn out fatal; and it is not till the third day after the accident, that we find delirium tremens supervene. I do not doubt but that, while the loss of blood, which was very great, relieved the tension on the brain, and thus removed the maniacal excitement, and, as it were, cured the patient for a time, it was this very loss of blood which induced the subsequent delirium tremens.

The other point to which I would allude is the death by coma. I scarcely think that it was caused by any pressure on the brain from the wound, as there did not appear to be any bones exerting an undue pressure upon this organ. I am rather inclined to think that the coma was the result of the extensive deposit of lymph, which was found over the whole surface of the brain, and which was the result of long-continued dissipation. I may state, in regard to this case, that the patient stated he had concealed the nails at the door, where they were found, and, when found, they were covered with blood, and in the exact place where the patient described.

III. *Clinical Lectures on Typhus and Continued Fever.* By CHARLES RITCHIE, M.D., one of the Physicians of the Royal Infirmary, Glasgow.

LECTURE IV.

(Continued from Vol. II., page 347.)

It has happened to me, when having occasion, during some sickly winter, to describe the cases to a student or medical man accompanying me through the Fever Hospital, that I have been able at one visit to direct his attention, it might be, to some Celtic maiden, following us with alarmed inquiring eyes, recovering from febricula, for which she had been mistakingly removed from her Saxon master's house; then, in an adjacent bed, to the suffering aspect, gathered up on her side, shading her flushed countenance, shining eye, and contracted brow and pupil from the light, of a patient in the first stage of typhus; and, beside her, to another prostrated on her back, her eyelids fallen on the red eyeballs, the face heavy, massive, and leaden-coloured, the limbs extended and uncovered—

a subject of typhus in the period of collapse. Passing along, we might look in succession to some hard-worked Hibernian, with pinched nostrils, and a crimson-coloured flush on his wan cheek, suffering from pneumonia; to another, a tavern-keeper, perhaps, sweating under the terrors of delirium tremens; to a third, with gastro-hepatic fever in the stage of excitement; and to another, emerged from this, and now in the period of intermission, and possibly of a bright golden-colour from jaundice. In one side-room we might encounter several cases of variola, in another one of erysipelas, and somewhere else there might be examples of scarlatina, or of measles, or even of cholera. There might lie, like an inert mass, a silent person, replying tardily to questions, and that only in monosyllables, having a slow pulse and frequent sighings—a hopeless sufferer from cerebritis; here, confined in a jacket and secured to his bed in every limb, the maniacal-like subject of meningitis; and interspersed amongst such, perhaps along with instances of other diseases, I might in succession point to cases of enteric fever at different periods of its lingering course, or to examples of the several other forms of continued fever in their successive stages. If, after exhibiting to my companion this diversified scene, I should assure him that all he had witnessed, so multiform in appearance, was nevertheless identical in pathological nature, the same disease in variously modified conditions; and, favouring him with some admonitory remarks on the folly of those who would map out fever into localities, as a phrenologist does a head, I should next assert the existence of an indefinite multitude of fever vortices, revolving in cycles of unknown length, and appearing in our horizon in a constant succession of new species—one in essence, though most protean in aspect, which should be treated according as they exhibit a very inflammatory, a less inflammatory, or a positively putrid aspect of the system,—in what would my position and difficulties differ from those of writers who, misled by a respect for authority, and by various general analogies, labour to adjust to the principles of a common nature the discrepencies of character and opposite requirements of treatment of typhus and continued fever? It is no marvel that writers of this sort, however accomplished or familiar with fever, should, like a recent lecturer on the subject, confess that the disease is most hard to be understood, and the economy of it so difficult to be taught, that nothing short of his long acquaintance with its habits in hospital practice could warrant his making the attempt. It would, indeed, be as real matter of surprise, were the study of fever easy, and the elucidation of it simple, when so conducted, as that some intricate question of ancient ontology had been satisfactorily adjusted by the arrangement of the bones of separate genera of antediluvian animals into one skeleton.

But it is a remarkable circumstance, that while writers of a metaphysical cast of thought, even when most conversant with

the disease as practitioners, lose themselves in such embarrassments when treating of fever as a matter of philosophy, the ordinary medical practitioner, dealing with its practical curative management in every-day life, is often quite at his ease. It is a wide-spread notion amongst these, especially the less experienced of them, that the treatment of fever is a simple affair; and many such practitioners suppose, in particular, that could they but see their patients early, they might arrest the farther progress of the disease as certainly as they could extinguish a candle. Were every febrile seizure a mere ephemera, this might be true; but so many opposite conditions have their spring in the symptoms of a diary fever, that it is, in point of fact, a matter of some delicacy to intermeddle, at an early period, with a pyrexial disease, especially by the exhibition of what are called febrifuge remedies. These are means, usually of a herculean kind, which are employed with the professed object of strangling the fever, as it is called, or of forcibly breaking the chain of disordered conditions which constitute the disease.

There is a previous question involved in the employment of such agents, which is of great importance, but of difficult solution. Can any fever be cut short? I do not say any febrile condition, for on that point there is no room for doubt. We can cut short an inflammation; but is it possible to arrest the course of a special fever?

There is no fever, including even the plague, which does not at times present itself milder in its symptoms, less complete in the number of these, and several days shorter in its course, than the regular type of the disease. These anomalies are occasioned sometimes by the smaller amount of contagion, infection, or other exciting cause which has been received; at others, by idiosyncrasies in the patients, which may even create a total inaptitude to become affected; but the question returns, do they afford us solid ground to believe that we can, by artificial means, not only produce an amelioration, but also an absolute annihilation of the symptoms of fever? In the Fever Hospital here, the wards are sometimes, during epidemics of typhus, made to accommodate twenty-six instead of nineteen patients. The consequences of this procedure are soon observed in the increased gravity of the symptoms and augmentation of the mortality, from perhaps 1 in 9, to, as I have seen, 1 in 6.5. But, let the same patients be placed in wards, or, what is greatly to be preferred, in separate apartments, affording say 800 or 1000 cubic feet of air to each patient, or let them be retained in their own homes with equal advantages of treatment, and the general complexion of the cases will not become so grave, or the casualties so numerous.

During the epidemic to which I have alluded, small-pox also prevailed, and the hospital patients here being exposed to the same over-crowding, the deaths amounted to nearly 20 per cent.; while,

in a subsequent year, every element being the same, except that I could secure for my patients a larger space, the mortality from small-pox fell to 5 in 64, or to 1 in 12·8, being only about 8 per cent.

And, in regard to enteric fever, the same law was in equal operation, the mortality during twelve months that the number of patients was maintained at the high rate, being, under my care, as 1 in 8·5, and in the other period of fourteen months, when the number of patients in a ward never exceeded nineteen, it was 1 only in 14·6.

Again, in respect to the other forms of continued fever, should you happen to practise in a country district, you will meet with inflammatory fever of different kinds, which commence with great violence, and often prove fatal, perhaps as soon as the tenth day, under a strong concentration of symptoms; but if such patients be bled early, according to their strength and the inflammatory complexion of the complaint, these cases often run on in a regular, typical, and moderate manner to the ordinary period of crisis. In some instances of this kind, the copious detraction of blood, on the second and third days, is succeeded by a complete remission, when, after twenty-four hours, the fever returns; but in the same fevers, in warm climates particularly, profuse bleeding is often followed by an instant dissolution of the severity of the disease, and by a speedy convalescence. In an analysis, made by Dr. Arthur Thomson, of 316 successful cases of fever, he found that, of 181 which came under treatment before the eighth day, the average duration was twenty-seven days; whereas, in the remainder, which received no treatment till after the seventh day of the fever, the average duration of each case was thirty-seven days, or ten days longer. And in another series of 2,074 fever cases admitted into hospital before the seventh day of the disease, the same observer found a mortality of 1 in every 16½ cases; while, in 1,461 cases of the same fever, which came under treatment after the seventh day, the deaths rose to 1 in 8½.

I cite these as examples of varied kinds of febrile disease, which can plainly be modified by treatment either for good or evil; but we are still without proof that any of them can by such means be changed in their nature.

Some thirty-five years since, it was everywhere in this country asserted, that a fever might be made whatever one saw fit by treatment. "Shut up a mild fever," said they, "in a close, dark, and hot room; allow abundance of bedclothes, and a liberal use of cordials, and you will speedily transform your case into a genuine example of typhus. Expose the severest form of this latter fever freely, on the contrary, to a pure atmosphere, to tepid sponging, or cold affusions; give cooling drinks, purgative and saline medicine, and use local or general blood-letting, and you will gradually induce a metamorphosis into simple fever:" and

such, to this day, is substantially the principles taught in the different metropolitan schools of clinical medicine.

But the force of such representations amounts to nothing in the present question, in consequence of the principle assumed in them, that typhus is simply a variety of continued fever. The case, so far as change of form in the fever is concerned, is simply prejudged.

Continued fever is never widely epidemic without several forms of it as ephemeral, and short fevers presenting themselves promiscuously, often, in towns particularly, intermixed with typhus, just as they also sometimes are with scarlatina, measles, or small-pox. Every such season is distinguished by many seeming remarkable recoveries, and also by many entire failures under the use of febrifuge means, as well as by frequent instances of evil consequences from their employment, such as intestinal hemorrhage and inflammation. It is from the experience of such seasons that apparent support has been yielded to the doctrine both of the conversion and extinction of fever by remedies. Yet it is clear that the mixed constitution of these epidemics affords a constant and ample facility for mistake on the subject.

The commotion of the organs which exists during the tumult of fever, often giving rise to discharges of blood, or, by vomiting and purging, and the restoration of the secreting power which occurs at the period of crisis frequently giving occasion to sweating, catharsis, &c., these excretions have been construed into so many causes of returning health, and have been sometimes induced on this principle by the employment of various febrifuge means.

It is to the undoubted febrifuge properties of certain remedies, such as bark, arsenic, opium, &c., when used in intermittent fever, however, and to the good effects which sometimes proceed from the early employment of the warm-bath, emetics, blood-letting, the cold affusion, purgatives, &c., in the beginning of continued fever, that the expectation of cutting short the affection by such means is chiefly to be traced.

On reflecting on the physiological powers of these agents, it will be perceived that they all tend, either by stimulating the heart when given in depressed conditions, or by quieting it when employed in opposite states, to equalize the circulation. Thus, when had recourse to in the stage of vital torpor, which succeeds the impression of the exciting causes of fever on the nervous centres, those only are suitable which stimulate the system. Of this description are change of air and scene; exercise in the open air in the country, and at a distance from the presumed cause of the complaint; the internal use of stimulants and tonics, the warm-bath, and the exhibition of emetics. And when employed after the tide of vascular excitement has set in, then confinement to bed in a dark room, diaphoretics or sudorifics, purgatives, blood-letting, the

cold affusion, tartrate of antimony, or such other remedy as is fitted to abate the constitutional tumult, is indicated.

It was a favourite object with physicians in the middle ages to discover a febrifuge remedy, which, by exciting a great commotion in the system, might at once stimulate the whole economy, and also carry off the fever by the creation of some discharge. Riverius tells us that he had meditated long on the construction of such a species of bomb, and at last obtained it in a salt got by dissolving determinate quantities of gold, antimony, and quicksilver in nitro-muriatic acid; and, in the present day, it is common to exhibit, as similar explosive febrifuges, combinations of both of the latter metals along with some saline evacuant.

Dr. Brown, one of the surgeons to the Royal Infirmary of Edinburgh, in a paper published in 1802, says that, out of 280 instances registered in the books of that hospital, there were twelve only in which it was noted that the fever had ceased the day that medicine was first applied; but the same writer testifies to the efficacy of certain pills, which were given by the surgeon of the *Namur*, ship of war, to those of the crew who became affected with a fever which was epidemic in the ship. These pills were, from their violent effects, called "Warren's Thunderbolts;" vomiting, purging, and profuse sweating being induced by them, followed often by the dissolution of the fever, and a great reduction of the mortality.

I remember since five grains of calomel, with half a grain of tartrate of antimony, and ten grains of bitartrate of potash, constituted a favourite febrifuge of this kind; and, at present, the exhibition of a dose of blue pill or gray powder, quickly succeeded by repeated draughts of solution of sulphate of magnesia and tartar emetic, is very generally employed; often, in the country, preceded by a full bleeding, as a similar tumultuary cure of fever. The depurating and calmative influence of such tornado-like practice is sometimes well illustrated, when it is employed in the stage of vital depression and torpor of the organic functions which precedes the rigor of fever, or during the first twenty-four hours of vascular excitement which succeeds this; although Armstrong, with a recklessness inseparable from the hop-step-and-leap spirit in which he wrote, declares that he has seen many cases of inflammation of the stomach and intestines distinctly arising from the use of antimonials and salines as febrifuges, and that they generally do a great deal of mischief. It is clear that the cases in which he saw this, must have been instances of the endemic enteric fever of London, in which the treatment was employed after inflammation of the ilium had taken place, that is, probably, after the fourth day, and certainly, in that event, the method would merit all his reprobation.

As the subject of febrifuge remedies is of great practical importance, and also involves the correct appreciation of the nature of

fever, I think it necessary to speak of it more in detail. Before doing so, it may not be improper, however, to refer, for a few minutes, to those means which are supposed to be influential, not in removing, but in preventing fever.

It will be seen that the question of contagion meets us at the first moment of this attempt, and also, that the due consideration of the preventive management must extend beyond what is needful for individuals, to what is demanded by the community.

I will not speak on contagion in the way of battling an abstract argument. With this aspect of the subject I have nothing to do. In the battle of life, however, you will, each of you, frequently be exposed to the influence of two very opposite tides of popular feeling on the topic. One is the nearly universal belief and fear of contagion which has ever prevailed, and, in the existing constitution of the material world, must always prevail; the other, the disposition, amongst mercantile communities, partly to explain away or utterly deny the doctrine of contagion, in consequence of the injury to commercial interests which accrues from it. Both of these views influence the profession, as well as the general community.

Down to, and long after, the time of the Hippocratic school of medicine, the doctrine of contagious disease was held exclusively as a popular belief, and was promulgated, not by physicians, but by historians, philosophers, and poets. The Justinian code of civil law, even, embodied the doctrine of contagion before the subject received a place in the scientific writings of physicians. From the earliest periods, the attention of medical men was directed to the influence of air, moisture, winds, &c., in originating disease, but it was the pressure from without that compelled them to the consideration and the reception of the belief, that, when once so enkindled, fever may be communicated by the contact of one infected person with another. In the present day, whether the question involves a quarantine regulation at our maritime ports, or the formation of a *cordon sanitaire* around a town, or in a family only, the mercantile principle is apt to arise in collision with the hygienic, and medical men require to exert a jealous guard, equally against the commercial infidelity as against the operation of a panic fear. It was only the other day that a physician in this neighbourhood was thus the sole succourer of a stranger seized on the road with the symptoms of cholera, and in this state refused admittance into the adjoining village. And, on the other hand, it is not a great while since some of the boys in an establishment here, being affected with scarlet fever, the master of the institution contended with me on the folly of sending the other boys home, because he had been assured that the disease was not contagious, but "only in the air."

Should a river, for a time, overflow its banks, and a considerable extent of the country or city through which it runs be left

covered with sedimentary deposits and damp, or should a clayey, marshy, or rich vegetable district of land be exposed to protracted rains, in either case with sufficient elevation of temperature, the atmosphere of the locality becomes loaded with animal, vegetable, and aqueous exhalations and products, and it is found, as a matter of observation and experience, that the inhabitants are often, at the same time, extensively affected with fever. Sometimes an atmospheric constitution, the origin of which cannot be so well ascertained, arises in some part of the world, and in an incredibly short time diffuses itself on every hand, affecting whole cities in a single day with influenza, or some other form of continued fever. These are examples, accidental, endemic, and epidemic, of what is called Infection. Another instance occurs when human beings are pent together, for a considerable period, in a deficient atmosphere, as on shipboard, prisons, &c., typhus exanthema is engendered; and in proportion as the locality is overcrowded, and the persons exposed to it fall ill, the atmosphere and general material of the place become charged with the poison of typhus, or are infected.

Should any of the individuals so affected, either with fever or typhus, come into contact with others not labouring under the affection, and who are resident even in a healthy neighbourhood, they communicate to them their respective diseases; or these are what is called contagious.

The enteric fever described by Baglivi, which succeeded an inundation of part of Rome by the Tiber, and the enteric fever, which is the endemic of Hungary and of Great Britain, furnish examples of the two first of my supposed cases, or the accidental and endemial. The epidemic gastro-hepatic, or relapsing yellow fever, which affected most parts of the world in 1843, is a striking instance of the third.

I filled the empty beds of my medical wards at that time with cases of this last fever, but I was soon compelled, by the complaint being frequently communicated to my other patients, to remit all the subjects of it to the fever hospital, after which I had not an instance of it in any of the medical wards. But, in proportion as the fever house got crowded, the clerks and nurses there became largely the subjects of the disease.

As respects the contagiousness of the enteric species of continued fever, you will seldom meet with a sporadic case of it which does not extend itself, unless when a careful separation is enforced, to all the younger members, in particular, of the family in which it appears.

And in regard to the power of typhus to perpetuate itself, you may assume it as a fixed principle, that although its easiest victims are the aged and exhausted, nothing short of the most vigilant insulation and cleanliness can prevent its diffusion amongst all who have not previously been affected by it. I remember a case

of this disease having found its way, by accident, into a medical, that is, a non-fever, ward here, then under the charge of a friend of mine, a warm non-contagionist. It soon became the focus of a small epidemic, four other cases of typhus being quickly produced by it, from among the patients affected with other diseases in immediately adjoining beds. And it is the invariable experience here, when this disease is epidemic, that, although such a thing as the contagion being wafted by the air to localities external to the fever house was never heard of, every unseasoned official who comes into contact with it in the house, is, as a general rule, affected by it.

We are not, unless in the case of typhus, acquainted with the ultimate causes which engender the febrile exanthemes. The ancients supposed them, like other plagues, to be formed in Ethiopia; and the modern Vegetarians, despite the immunity from these diseases of the cannibals in the islands of the Pacific till the arrival there of Europeans, ascribe their existence to the eating of animal food. With continued fever it is different, and in dealing with it we have to bear in mind its atmospheric origin, as well as its contagious nature. That it has a primary connection with atmospheric states, is shown by the rapidity of its extension over all the quarters of the largest cities, across oceans, and throughout extended continents; and also by the changes in type which it often successively undergoes with the different seasons. When more localised, the relation which it has with the state of the weather, the presence in the grounds of moist decaying vegetables, the recent removal of the family in which it appears to a residence distinguished by its temperature, the moistness of its atmosphere, and its rich vegetation, have all a similar interpretation. The histories of individual cases, also, have almost invariably a climatic origin. Thus, in private practice in Glasgow, a majority of the persons affected by it are females and children of the upper classes, who have accidentally got wetted and chilled; and, in hospital practice, our cases of continued fever are principally derived from the more rural suburbs, and from the adjacent country, during the prevalence of cold rains.

Warm, dry clothing, therefore, the avoidance of exposure to cold and wet, and the having speedy recourse to the warm bath, and to rest in bed after any accidental wetting, will prove good prophylactics against fever. A thoroughly well-seasoned house, in an elevated position, removed from the immediate vicinity of trees, or of large reservoirs of standing water, or of vegetable matter undergoing decomposition, will all, also, be valuable preventives. I remember having seen a great deal of an epidemic continued fever, which prevailed extensively throughout the lower, flat, alluvial, and wetter portions of a neighbouring rural parish, while not a single instance of it occurred in the higher and drier part of the same district. And it is a circumstance of constant

recurrence, to find some form of continued fever appearing among the inhabitants of our city on their annual removal to various parts of the country and sea-coast during summer, especially when the season is damp.

As to preventing the extension of continued fever when in actual existence, I think that it is sound ground to assume every form of it, and also every stage, from the first flush of vascular excitement, to the completion of the desquamation of the cuticle, should this happen, to be moderately contagious, and to take your measures on this principle.

These will, in every instance, substantially comprise the segregation of the sick, the cleanness of their bodies, of their bedclothes, and of their apartments, and the purity of the atmosphere they breathe. The nature of the details will necessarily vary with the circumstances; and what will prove useful in continued fever will, *à fortiori*, be expedient in typhus, and the other exanthematous fevers.

Of prophylactic measures employed for the safety of the public community, fever hospitals have always been esteemed among the most important. I have already spoken of the imperative need there is of, at least, 800 cubic feet of air to each patient in these institutions, in order to make them really curative means; and I may be allowed to say here, that, with the same view, a mode of ventilation independent of windows, and of the volition of nurses, is also indispensable. The simplest, most economical, and best suited contrivance of this kind for a fever hospital, is to make an opening of about a couple of inches in height, and a dozen in horizontal length, in the outside wall, between each pair of joists, on the level of the deafening. This admits the external air under the boards which form the floor of the ward; and by placing a perforated metallic plate in the central plank of the flooring, opposite to each opening in the wall, a constant, gentle current of pure air rises up into the lowest, and, therefore, most impure portion, of the atmosphere of the ward, and at a point the farthest removed from the patients. The foul air is easily removed by an opening made in the wall below the ceiling, and communicating, by a flue, with any of the fires or furnaces of the building. Ventilation by means of windows, besides that it renews the ground atmosphere of the wards imperfectly, leaves the patients to the discretion and judgment of nurses, and also, when used, to the evils of a strong, direct current. The practical results are the alternation of the effects of a highly contaminated atmosphere, produced by the closure, with attacks of erysipelas, inflammation of the ears, throat, and lungs, occasioned by the opening of the windows.

It has been alleged, that the number of recoveries in a fever house is proportionate to the earliness of the admission of the patients, and that this, again, corresponds with the willingness of the poor to be received. When speaking on this subject, I desire

to state it as my deliberate conviction, that the plan of short, rotatory medical attendance in fever hospitals, is not the best for securing for them the confidence of the poor, or the lowest possible amount of mortality. It requires a longer familiarity with the numerous details of these institutions, and with the peculiarities of the diseases admitted into them, than is consistent with, say a two years' physicianship, to enable any one to exercise a steady, enlightened, professional superintendence over them. There is no disease, besides, in which it is more needful for the physician to possess a continuous individual knowledge of every particular case, than in fever. The changes in this affection are so constantly occurring, and are at once so important in their nature, and so insidious in their approach, that fever cases require both to be watched and individually known, whether by physicians or nurses, more than those of any other disease. My experience in this department of practice has taught me, that every change in the official staff of a fever hospital, whether this involves the removal of the physician, the clerk, or of the nurse only, is fraught with danger to some of the patients.

As regards the prophylactic influence of fever hospitals, I think it was Dr. Currie, of Liverpool, who asserted that every single removal into the house of recovery there, probably prevented the occurrence of two or three cases of the disease. I wish I could believe this of every other fever hospital. The truth is, that, during seasons of pressure for room particularly, when the average residence of the patients in the house is short, when there are, perhaps, no convalescent wards, and when, owing to the want of a separate building for the retention of persons too well to be kept in the fever house, but whose skins, and other secreting surfaces, as the lungs, &c., are still desquamating, and whose health is still too little confirmed for it to be safe for them to mix with their families at home—fever hospitals, instead of limiting, are often the means of spreading the disease.

With these remarks, on the means of preventing, I proceed to offer some observations on each of the principal expedients had recourse to for checking a fever.

1. And first, as to the analogy of the power of quinine in ague, I do not believe that there is anything in it as respects continued fever. In the gastro-hepatic species of fever, in which a crisis takes place on the fifth or seventh days, followed by a period of perfect health, which continues for other five or seven days, when a violent relapse occurs, I have, in multitudes of instances, given sulphate of quinine during the intermission, sometimes in small, frequently repeated doses; at others, in monster quantities. The patients were kept in bed, and on light regimen; or they were put on generous diet, and permitted to walk about; their bowels were carefully regulated, and sometimes they were allowed to change the air by returning home; but the steady experience was, that

the relapse came on as uniformly as when the cases were let alone. In typhus, again, which has often, but erroneously, been asserted to be a pernicious intermittent, and in which the alleged febrifuge and curative powers of sulphate of quinine have recently been advocated on mistaken principles, I have also given this remedy, during different epidemics, and in all sorts of the disease—in the old, the young, men and women, severe and mild, and in doses frequently of four grains every four or six hours—and I have never seen it exert any power in shortening typhus, or operate otherwise than as a stimulant, enabling me, in the cases in which it was used, to do with somewhat less wine.

2. The warm bath has been sometimes useful in the commencement of fever, and has been supposed competent even to its arrest. It is employed for this purpose either during the rigor, or when the head has begun to be excited, but before perspiration. The ancients would not use it unless there was, at least, incipient moisture on the temples, and had a wise fear of employing it at all when there was visceral disease present. I certainly would never put any one into a bath above 98° of temperature, who has either hypertrophy of the heart, or enlargement of the liver or spleen.

The object in view, in its use, is to equalize the circulation, by determining to the peripheral vessels. A very accessible and summary method of doing this is to seat your patient, enclosed in blankets, on a kitchen chair, under which a plate, containing a couple of ounces of spirit, in a state of combustion, has been placed. At other times, when the person is unable to sit, the same thing may be expeditiously and effectually done, by sending a current of heated air under the patient's bedclothes, by means of a spirit-lamp. Place one extremity of an arched piece of tin under the outer lateral edge of the bedclothes, and put a lighted spirit-lamp under the other end. Then raise the bedclothes by means of a stool, or a hoop or two, so as to secure a current, and in a few minutes your patient will get warm. Or an equally summary way of restoring the heat, is to wrap the patient in a warm wet sheet, and pack him all round with dry blankets. In a very short time the face will begin to get florid, and the sweat to flow. Should you have the opportunity of a hot vapour or of a hot water bath, either of them may be taken at a temperature of from 100° to 120° , and the patient may be kept in either till he is fatigued. In the case of a very weak person, it may be expedient to allow him to recline in bed, and employ only the foot-bath, with mustard. This is done by placing the pail of hot water at such a level, as will permit the patient to lie easily with his head on the pillow, and his legs in the water. Then legs and pail should be enclosed in blankets for half an hour, or an hour. If it is a child that you are called to treat, your best plan is to wrap up the body, as far as the armpits, in a warm, wet blanket,

and cover all over with a sufficient number of dry, warm bed-clothes.

The late Dr. Armstrong had the strongest views on the utility of the warm bath, but especially of that of the hot-air bath, of any who have written on the subject. He alleged, with great truth, that this form of applying heat does not fatigue the patient like the warm bath, and that in half an hour it will bring pounds of blood to the surface, which were previously suffocating some internal organ, and that it will produce perspiration, and restore the balance of the circulation sooner than any other remedy.

I will only add that, if you have an ephemera to treat, any of these modifications of the hot bath will expedite its dissolution; but should your case be the result of the gradual incubation of any form of continued fever, you will fail. The fever will run its course, but the bath will accelerate the stage of febrile excitement, and, should it not have been very hot or long-continued, no evil will accrue from its use.

3. Along with the external application of heat, a very common method of attempting the resolution of a threatened fever is the employment of stimulants by the stomach or rectum. I have seen beneficial reaction induced very expeditiously by means of forty drops of laudanum given during the stage of depression and rigor subsequent to receiving a chill, and it is sometimes useful to combine this, in such circumstances, with a similar quantity of sulphuric ether. A teaspoonful of brandy, or a tablespoonful of warm sherry, given every ten or fifteen minutes, in the same condition, will often restore the heart's vigour, and, should irritability of the stomach prevent their use by the mouth, they may be given in double or treble quantities by the rectum, either with hot water and turpentine, or tincture of ginger.

There are some sanguine, self-complacent practitioners who loudly assert that brandy is the sovereign specific against every stage of fever, and that they can stave off an attack of the disease, even after the circulatory excitement has commenced, if not by a glass of punch, at least by making the patient drunk. These modern Asclepiadii are quite as popular, and also as correct in their therapeutics as the Homœopathist empirics, who, before the time of Hippocrates, professed to strangle fevers by means of alum and other astringents, given internally, and applied in cataplasms to the hands and feet.

4. Emetics also have been had recourse to, in the expectation of breaking the fever. They act, like the hot bath, on the principle of inducing reaction, and, like it, they require similar limitations in regard to the presence of organic disease.

Frequently a rigor is induced by a loaded stomach. I have a patient, a healthy gentleman of seventy years of age. Should he happen to exhaust his vital powers by fatigue or exposure to cold, and, in that state, indulge in a hearty meal, he is seized with a

violent rigor, followed by stupor, some loss of voluntary power and imperfect reaction, which continue till he is freed from the fermenting mass of undigested food by means of gentle emetics, and by purgatives. It is a remark of Celsus, that bile in the stomach often excites shivering; and here, also, an emetic will frequently bring an alarming assemblage of fever symptoms to a close. Nausea and inclination to vomit are common effects of the presence of undigested food or of bile on the stomach, and when present in what seems likely to become a fever, it has always been a usual and excellent practice to give an emetic.

But this species of febrifuge remedy is often employed both to unload the stomach, and to equalize the circulation. The splanchnic congestion which obtains in the first days of enteric fever, particularly in the portal circulation, exhibits itself by great tenderness and sense of oppression in the epigastric and hypochondriac regions; a red tongue slightly painted with bile, and a shrunk state of the general surface of the body. Here a gentle vomit of ipecacuanha is often followed, not only by a discharge of bile from the stomach and also by stool, but also by a restoration of the heat and secreting power of the skin, and by a removal of the precordial load. Many physicians have supposed that they have quite arrested the progress of enteric fever in this way, and there is good reason to believe that the succeeding fever has, at all events, been often much modified by these means.

It was a favourite method of breaking a fever, practised by the late Dr. Richard Miller in this hospital, to determine to the skin by means of an emetic and other appliances. His formula was as follows:—

“About eight o'clock in the evening I order the emetic—generally ipecacuanha—after the operation of which the patient is enjoined to bathe the feet and legs in warm water, during at least a quarter of an hour or twenty minutes, and upon retiring to bed he is to swallow a large dose of Dover's powder. Sweating soon commences, and it is to be supported and encouraged by tepid diluents. This method, when administered early enough, I have found singularly successful. My chief experience of it has been among the nurses of our Infirmary, when they happened to catch the contagion. With them I have seen it repeatedly dissipate every symptom of fever. Upon visiting them next morning, I found that, after profuse sweating during the night, the pulse had come down, that the headache, with the pains of the back and limbs, had vanished, that the tongue had regained its moisture, and that nothing remained but a little debility; in short, that all those threatening signs had disappeared, that, if left alone, would have soon matured themselves into a regular and genuine typhus.” And Dr Miller subjoins the histories of similar seizures, treated in the same way, in two of his Fever Hospital clerks, with equally happy results.

Dr. Miller, in the manner universal at the time he wrote, employs the term typhus here as a convertible name for fever. Whether his success was equal to his own estimate of it is, I think, open to doubt. Clerks here are often in fear of fever when their chilliness, want of appetite and spirits, nausea, head and back aches, and disturbed circulation depend on cold, to which they are the more liable from the indigestion and loss of constitutional tone incident to their often remaining too much within the atmosphere of the hospital; and, as to fever nurses, it is really not usual to see them falling quite so thickly under the disease as appears to have been Dr. Miller's experience, although every one knows that, as a class, they often subject themselves to other very potent causes of temporary tumult in the circulation.

Emetics are sometimes still employed, as they often were in ancient times, after the fashion of a fever-pump, by which the germs of the disease are expected to be raised from their lurking places in the body to be eliminated by the gastric surface. It was objected to their use for this purpose formerly, that not unfrequently the patient was freed of his spirit (*animam suam evomuit*) rather than of his fever by this means, and the objection remains as good in the present day as it was when first employed.

Sydenham had nearly constant recourse to emetics on the access of fever, but where reaction had begun, and much acceleration of the circulation had appeared, he recommended that their use should be premised by the detraction of blood.

5. Blood-letting is another alleged febrifuge which, potent both for good and evil, has been employed to an immense extent, and from the most opposite motives, whether in the prevention or treatment of fever. In this hospital we rarely have the opportunity to test its power as a febrifuge, but in an epidemic of simple continued fever which I saw in the country in 1821, a number of persons came under my care at an early stage of the symptoms, in whom, after the application of external heat for the removal of the coldness, and the detraction of a quantity of arterialized blood, the tumultuary fever was sometimes speedily dissipated. A couple of large bleedings in one highly plethoric man, seemed competent to occasion no more than a remission. A perfect dissolution of the symptoms occurred for twenty-four hours, after which they returned and a crisis was got only on the 21st day. It is needful to add that there were cases of this fever on which blood-letting had no influence, unless it was a noxious one. Delirium of a most outrageous kind seemed to be sometimes induced by it in nervous, excitable habits, and in one case in which it was largely employed in the outset, it appeared to give rise to the symptoms of intense apoplexy. Such appearances of determination of blood to the head have been long known to be excited by the loss of blood, although the fact has again of late been recurred to as a general principle by the ingenious Dr. Marshall Hall.

In a similar short inflammatory form of continued fever which succeeded a typhus epidemic in Edinburgh, and some cases of which I saw, the same appearance of the dissolution of the fever by the aid of profuse blood-letting was observed. There is little doubt that the cessation of the fever in these cases after bleeding, was more dependent often, however, on the fever than on the remedy. The fever was essentially a short one, but was confounded with the typhus which had preceded, and to some extent accompanied it. My cases are described in the first volume of the *Glasgow Medical Journal*, and those at Edinburgh in the first volume of the *Library of Medicine*, and in Dr. Welsh's treatise on the fever of that period.

Bleeding is, especially in country situations, a remedy less likely to do harm than most other alleged febrifuge means; as, even when the disease was typhus, I have never seen a single blood-letting at the outset do harm. There is a wise remark which I have read somewhere—“*Sanguis frænât nervos* ;” and in typhus the disturbance and disorder of the nervous system is one of the great evils of the disease; yet, whether it was from lessening the quantity of circulating mass, and thus diminishing the extent of the venous congestion which afterwards occurred, and which is one of the chief causes of death in typhus, or from whatever cause, I have never seen any evil arise from bleeding in the outset even of typhus. There is, as there has ever been, a class of active practitioners who, whether from an innate, constitutional spirit of restless effort, or from a nervous, silly desire to escape the critical reflections of others by practising in a mechanical, routine way all that has been recommended as useful, leave “no stone unturned,” as they say, to insure the destruction of the fever. I have had cases of typhus sent in from the hands of such men, and also frequently of enteric fever, but I can frankly say that I have not seen a tithe of the mischief done in typhus by the lancet, which I have seen in enteric fever by drastic purgatives. I think that the employment of blood-letting in typhus is generally a mistake. I know there are some physicians—Dr. Armstrong, for example, asserted that he had bled in typhus to more than a hundred ounces, with a marked febrifuge effect. Dr. A. was misled by his own nosology. His typhus, in the form of it in which he thus bled, was, he says, Cullen's synocha, but neither would he, nor any of the advocates for the unity of essence of typhus and continued fever, have followed such a practice with what they called pestilential typhus—the typhus of these lectures. You would not, if in your sane mind, try to treat a supposed case of typhus fever by blood-letting, if the case presented itself to you during an epidemic of that disease, or if the patient had recently been exposed to any contagion.

But it has been in the attempted destruction of some of the forms of simple fever, and not of typhus, by blood-letting, that this

remedy has been mainly found either beneficial or not hurtful. The similarity of many of the symptoms of fever to those of inflammation, their tumultuous vehemence, and the fact that young persons are its most usual subjects, as well as the frequent occurrence, sometimes with useful effects, of profuse hæmorrhages during its course, have all tended to suggest the employment of blood-letting as a febrifuge. The ancients believed that fevers could often be cut short *in limine*, or, as it was afterwards called by Willis, "crushed in the egg," by this means, when employed before the third day; and Van Swieten thus records:—"Ut Galeno, sic febrem curanti, adstantium quis dixerit, O homo! jugulasti febrem!" This latter writer, followed by Botallus, Sydenham, Clutterbuck, Armstrong, and others, thought that blood should be taken at the beginning of an ardent fever to syncope, and that, by so doing, the body, even though the fever was not at once destroyed, would be so lightened as to insure a short and easy illness; but it was mainly from the reports of those engaged in the treatment of the climatic fever of warm or fenny countries, of the marvellous power of copious detraction of blood in arresting fever at a single stroke, that the practice obtained a footing with ourselves in recent times. I must refer you to the writings of Mitchell, Rush, and other American physicians, as well as to those of our own Jackson and others, for the interesting proofs of the high prophylactic value of full depletion of blood on the first day of the fevers of warm latitudes; and, also, to the periodical literature of the day, for many striking instances of the value of the practice at the outset of continued fever at home, in the beginning of the present century. But I cannot dismiss the subject without cautioning you, that the records of medicine, especially those of the middle ages, are full of frightful examples of the ruinous consequences of blood-letting when employed freely in certain forms of epidemic continued fever. I believe it to be chimerical to expect to arrest the progress of a fever by blood-letting later than the second day; and, also, that it is wrong to repeat this remedy when the second sound of the heart has become prolonged, or when the murmur of the larger arteries on the application of the pressure of a stethoscope is found shortened.

6. The form of fever in which venesection has been chiefly alleged to prove competent to the extinction of the disease has been the cephalic, and here its use has been often succeeded instantly by the employment of the cold affusion with the same purpose. The sudden impulse on the system of this remedy is said to have induced sweating and sleep, and thus to have frequently at once cut short the disease. The usual mode of applying it has been to pour, say a couple of gallons of water on the patient while standing in a tub, and to repeat it during the first and second days of the disease as often as the heat of the skin returned. The mode by immersion has also been sometimes adopted. In warm

climates, cold water has been productive of eminent advantage at the outset of fever, and both externally and internally its use has been resorted to from the earliest periods as indeed the only *febrifugum magnum*. At the commencement of the present century, the reports of Dr. Currie regarding its use in fever took strong hold of the profession, and as late as 1815 I remember seeing it resorted to in this hospital. I think Dr. Clutterbuck speaks of having seen the cold affusion practised here in 1803, and that it was then often followed by catarrhal and inflammatory seizures. Be this as it may, it is a means which for many years has been discontinued in the latitude of Glasgow, unless by the hydropaths, in whose hands it is certainly an agent fraught with much danger to the unfortunate fever patient who is subjected to it.

7. The only other febrifuge agents of which I shall speak are purgatives. These have formed an element of every formula for the tumultuary or short method of curing fever, from the bleeding, sweating, diuretics, and emeto-cathartics of the Dogmatists before the days of Hippocrates, down to the tartar emetic, calomel, and black draught of the present time. In the more expectant methods of treating fever adopted by the Father of Medicine, and even as late as the time of Sydenham, while the supposed power of purgatives to attract the noxious principle of the disease to the intestinal surface was not disputed, certain notions about the necessity of "thickening the fever," prior to its expulsion, prevented their early employment. It was Stoll of Vienna who was the first strongly to recommend their use in the arrest of bilious fever, and, on the principle, "*sat cito, si sat bene*," he gave them on the first day, often, he says, with the effect of dissolving the disease. Their use became popular subsequently in the bilious fevers of America and the West Indies, and in the beginning of the present century the late Professor Hamilton of Edinburgh, from having observed that antimonials, when given in fever, as recommended by Cullen, were often followed by benefit when they produced catharsis, introduced the exhibition of purgatives into the treatment of fever in this country. His object was restricted to the moderate evacuation of the contents of the bowels, but his authority was instantly made the warrant for a system of daily profuse purgation in fever which reigned here, and was practised also on the Continent, until, first, the doctrines of Broussais, and, afterwards, the more matured and accurate views of succeeding writers, made us acquainted with the frequent direful consequences of the plan when practised in enteric or typhoid fever.

I do not think there is room for hesitating on the employment of febrifuge purgatives in the cephalic species of fever, after the patient has been blooded according to his strength, or in the gastro-hepatic, or even, in a cautious way, in the thoracic, but it is more difficult to determine how far their use may be ventured on, and on what principles, and with what expectation of either

stopping or shortening the fever in the enteric or typhoid form of the disease. I believe that every one who has had much experience of this kind of fever will have been often disappointed in the results of all exclusive modes of treatment in it, whether expectant, antiphlogistic, evacuant, sedative, tonic, or stimulant; and that every such practitioner also will have frequently met with instances of apparent arrest of the complaint, especially when recourse was had to remedies calculated to unload the mesenteric system. In the second and subsequent weeks of enteric fever, there is often nothing between the abdominal cavity and the contents of the bowel other than the attenuated peritoneal coat, and sometimes large openings may be observed after death even in it, which have been plugged up by masses of feculent matter. In such circumstances the paramount importance of rest and quiet of the bowel will be apparent, but, in the first week of the disease, the chief element in the affection, in addition to the disturbance of the nervous centres, is a condition of sanguineous congestion of the abdominal viscera. The symptoms at this time, such as febrile reaction, anorexia, nausea, red tongue painted with bile, pain in the pit of the stomach and forehead, and, perhaps, diarrhoea, strongly suggest the propriety both of bleeding from the epigastrium, of warm fomentations, tepid baths, strict diet, and also of largely diluted and mild saline purgatives. Now, I have seen instances of this nature, which were also caused by cold and not by contagion, and which, therefore, were more likely to be amenable to treatment, fail to receive benefit from such means, and I have also seen them prove eminently successful. I think that the proper course in regard to the exhibition of purgatives at the outset of enteric fever, is to select those which, by producing large watery stools, are fitted to unload the mesenteric vessels, as, for example, sulphate of magnesia in a state of great dilution; and that, should the case not manifest improvement within forty-eight hours, the treatment on this principle should be discontinued.

In relation, finally, to the previous topics referred to in this lecture, I believe that I am safe in affirming that a true ephemera may exist independently of a local inflammation, and that its conversion into a more protracted form of fever may be prevented by treatment. I think that there is evidence, farther, that a fever, when dependent on causes suddenly applied, as cold or insolation, may be greatly modified by active treatment at its commencement, but that no fever which has a lengthened incubation period—that is, which depends on the introduction of a poison into the blood for several days before the symptoms appear—can be prevented running its normal course.

The head, the liver, the veins, the presumed air in the arteries, and, in modern times, the arteries themselves, have been adopted as the seat of fever. Van Helmont, who was a remarkably acute, although eccentric person, declared, with a pertinacity and dog-

matism which have scarcely been exceeded in modern times, that every fever was situated in what he called the "first shops;" that is, in the stomach and bowels. Chirac, a Frenchman, who wrote in the end of the seventeenth century, boldly insisted on the head being the deadly source and seat of the disease. The same notion was taken up and revived by Marcus in Germany, and at the time that France was resounding with the exaggerations of Broussaism, Clutterbuck, Armstrong, Mills, and others in this country, were quite as earnest in inculcating the figment of congestion or inflammation of the brain as the cause of every fever. The phantom of cerebral congestion haunted the minds of young practitioners here at that time in a way which was often most destructive. I remember having had my own jugular vein opened very gratuitously when a little dyspeptic, by one of these, otherwise a man of first-class education. The country was full of great bleeders from this cause; and practitioners of standing, even, had often to yield to what was accounted the progress of the age. I once, when acting as a clerk in this House about that time, was got by a senior physician to bleed a patient privately who was covered with livid typhus blotches. Not having any knowledge of typhus more definite than the sliding scale of Cullen, he was without fixed principles by which to test and withstand a strong professional clamour; and, like many others in similar circumstances, he was betrayed into the absurdity of removing blood from one in whom the vital forces were already fast verging to extinction. Leeching and cupping of the head, and opening the temporal artery, were all at that time in high repute in fever, from the prevalence of the same notions of its pathology. I visited the Cork Street Fever House, Dublin, in 1815. Besides arteriotomy, which was frequently practised there, the work of leeching the temples was going on during my visit, with a heartiness quite unequalled by anything I have since seen of the use of the same remedy, except when employed a few years later for the removal from the stomach and bowels of an analogous imaginary parent evil. Many of the alleged cures by bleeding were obviously febriculæ only, going to hospital under the impulse of panic, and some of these, in which bleeding was ordered, got well by the fourth and fifth day, although from different causes the bleeding was not performed. In other instances of the then Irish fevers, bleeding was no doubt had recourse to from the temporal artery in genuine typhus without much apparent evil ensuing. It was employed either when there was smart reaction still present, and its injuriousness then was not very obvious, or during the stage of subsidence and collapse, when a quantity sufficient to occasion present sinking was seldom detracted; yet it has been recently asserted that this innocuousness of bleeding in the public fever hospitals did not always exist. Dr. Stokes, in his second lecture on fever, avers, on the authority of an apothecary, that, at the time now referred to, it happened

over and over again that the patient died while the leeches were upon his temples—died as surely and as suddenly as if shot through the head; his informant asserting that, when an apprentice, “there was hardly a week that he was not summoned to take off a large number of leeches from the dead body!”

Since the cerebral and gastro-enteric hypotheses of the seat of fever have fallen into disrepute, there has been a greater disposition to recur to the doctrine of its essential, independent, or specific nature than for some time before, and to consider the disease in the light of a universal affection of the whole organization, to observe the individual symptoms of each seizure, and to treat its different cases in their varied aspects on the obvious and acknowledged principles of general medical science. This is very much the old Cullenian hypothesis of fever, and, provided the ordinary sequences of functional disorders which it presents be recognised as its special and not its accidental phenomena, and that typhus, as arising from a different animal poison, as consisting of peculiar, and, compared with continued fever, entirely opposite pathological conditions and effects, and as requiring a distinct and special mode of treatment, be shut out from the field of inquiry which the theory would regulate, I have no objections to it. Continued fever is an essential disease of the whole animal system, although in some part of its course becoming more distinctly localized, the situation and nature of the anatomical or secondary lesions varying according to circumstances.

(To be continued.)

IV. *Case of Vaginal Cystocele, treated by Mr. I. B. Brown's Operation.* By JAMES H. HOWIE, M.D., Helensburgh.

MRS. M——, aged 37, is the wife of a tradesman, was married at the age of 17, and has borne nine children. About twelve years ago, she was first conscious of the protrusion of a small tumour from the vaginal orifice, but this only happened after unusual exertion in the performance of her household duties. At this time she had no pain, or even uneasiness, in the hypogastric or lumbar regions, and the functions of the bladder and of the bowels were perfectly normal in their action.

Two years after the first appearance of the tumour, she gave birth to twins after a severe and protracted labour, and soon afterwards the tumour became considerably larger, and she began to have occasional attacks of dragging pain in the lumbar region, resembling those of labour. Along with these she had frequent calls to micturate, and the urine had often a fetid odour, and a thick muddy appearance, as she describes it. During the next half-dozen years she had three of her children, and after each