large bowel was found in its natural situation either not at all or only in the rectum.

It is not without interest to observe that, in cases where repeated attempts at respiration were made, particles of meconium were always found even in the parenchyma of the lungs, having been drawn as far as the air-cells themselves.

In the pleural covering there were found small hæmorrhages corresponding to the larger accumulations of these foreign matters; but lungs that remained in their entirely fœtal condition showed only punctiform hæmorrhages.

In two cases both cavities of the chest were filled with yellowish-red serum.

Considering the admirable researches of Hecker, Schwartz, and others, on premature respiratory movements, there cannot be a doubt that meconium reaches the air-passages only by inspiration,—an instinctive intra-uterine act; and it is supererogatory to make any further remarks on the subject.

In one case, the unfortunate inspiration was not during or before birth, and meconium was not the foreign body which demonstrated the respiratory imperfection. It occurred in a boy born with split palate, harelip, and other deformities in the same situation, to whom, seven hours after birth, the nurse wished to give some milk to drink to stop its crying. It died immediately. Larynx, trachea, and bronchi contained milk, and even in the parenchyma of the lungs milk was recognised by its fat drops; and to the parts containing these there corresponded hæmorrhagic spots in the pleural covering.

Part Second.

REVIEWS.

A Treatise on the Continued Fevers of Great Britain. By Charles Murchison, M.D., F.R.C.P., Senior Physician to the London Fever Hospital, etc. etc. London: Parker, Son, and Bourn: 1862.

Lectures on the Distinctive Characters, Pathology, and Treatment of Continued Fevers, delivered at the Royal College of Physicians of London. By Alexander Tweedie, M.D., F.R.C.P., Consulting Physician to the London Fever Hospital, etc. etc. London: John Churchill: 1862.

Voluminous as is the literature of fever, we are always glad to see additions made to it by competent observers. To the pathologist,
the subject is one of extreme interest, as lying at the very root of medicine, and embracing questions still involved in obscurity; while, to the practical physician, a disease which causes a large share of the mortality of the country, cannot but be regarded as in the highest degree important. Without farther preface we have to introduce to our readers the most recent works on this subject: the authors are London physicians, graduates of the University of Edinburgh, and each has derived his experience, partly in this city, but chiefly in the wards of the London Fever Hospital.

Dr Murchison's book is a complete treatise on the fevers of Great Britain. It has been prepared with great care, embodies the results of extensive research, contains the fruits of much observation and reflection, and is not only honourable to himself, but creditable to the medical literature of this country. The subject is too extensive to permit us to analyze the work completely; but we shall endeavour to lay before our readers the chief points in regard to which Dr Murchison may be regarded as an original investigator.

Dr Murchison's first chapter treats of the theory of fever, and classifies the various forms of the disease. It had long been recognised that an elevated temperature was an essential phenomenon of fever, but the cause of the increased heat was till lately involved in obscurity. Much light has been thrown on this subject by the researches of physiologists, especially of Claude Bernard. It has been shown that section of the sympathetic in the neck produces dilatation of the bloodvessels, and increased temperature of the side operated upon. The dilatation of the bloodvessels is the result of paralysis, due to the withdrawal of the nervous influence supplied by the sympathetic, more blood flows through the enlarged canals, more change of tissue in consequence takes place, and the result is an elevated temperature of the parts affected. In all probability the increased heat in fever is to be explained in the same way. Various phenomena, such as the preliminary rigors, the feeling of languor, the tendency to sickness, and the anorexia, seem to indicate that the fever-poison acts first upon the nervous system, especially upon the medulla oblongata, and leads to a partially paralyzed condition of the sympathetic, the vagus, and possibly of other nerves. One of the results of this paralysis is a dilatation of the bloodvessels supplied from these sources; this leads to a more abundant flow of blood, which determines a more rapid change of tissue, and hence occasions an elevation of temperature. That the tissues are destroyed more rapidly than natural is easily proved. Emaciation goes on far more rapidly than could be accounted for by the mere deprivation of food; the elimination of urea and uric acid (the measures of destruction of the nitrogenous tissues) is largely increased; and there is in general a direct relation between the temperature of the body and the amount of urea given off. The urea resulting from this destructive metamorphosis of the tissues may not, however, all be got rid off; it may be to a greater
or less extent retained in the blood, and may be the cause of those typhoid symptoms which modern observers have recognised as essentially identical with those of uræmic poisoning. The pathology of fever, thus briefly stated, is in all probability correct; no other theory is so consistent with itself, or affords so satisfactory an explanation of the facts involved.

The classification of fevers adopted by Dr Murchison is that which has of late been received in this country: it is thus expressed in a tabular form:

```
A.—Non-Specific.

I. Simple Fever, caused by
   Poison contained in emanations from sewers, &c.
   Exposure to sun, fatigue, surfeit, etc.

II. ENDEMIC (Pythogenic, Enteric, or Typhoid)

B.—Specific.

III. & IV. EPIDEMIC

Typhus caused by the concentrated exhalations from squalid human beings. Relapsing Fever. Famine.
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The second chapter of Dr Murchison’s work treats of typhus fever. It commences with an able historical account of the disease, in which it is shown that, although some of the cases described by Hippocrates were probably examples of it, no unquestionable proof can be adduced that previous to the sixteenth century any of the epidemics which were the scourge of the Middle Ages, can be clearly identified as typhus. The descriptions, however, of Frascatorius of Verona, and Cardanus of Pavia, leave no doubt that the epidemics in their time were identical with the typhus of the present day; and Dr Murchison shows, in his very interesting sketch, that the circumstances under which the disease has occurred have been almost invariably the same; that it has generally corresponded with periods of scarcity or want; that it has usually been associated with crowding together of the population; and that, although the disease has varied in severity at different times, there is no evidence of any change in its type or its essential characters.

The etiology of typhus, both theoretically and practically, is a subject of much interest, and is very ably treated by Dr Murchison. It is first shown that the predisposing causes are such as produce a depressing effect upon the system, and particularly such as lead to defective nutrition; and the exciting causes of the disease are then considered. That typhus fever is contagious, has been for long generally admitted by the profession; in fact, no one who has had even moderate experience of the disease can entertain any doubt upon the subject. But while this is the case, there has been much difference of opinion with regard to the mode of generation of the poison. Some, as the late Dr Alison, considered that the poison was specific in the fullest sense; that the disease, like small-pox, was never generated de novo, but that it was always communicated
directly or indirectly from the sick to the healthy. Others, while admitting the contagious characters of typhus, have maintained that the virus was non-specific, but that it was generated under various unfavourable hygienic influences, especially starvation and vitiated conditions of the atmosphere. Dr Murchison's conclusion is, that although the disease is in general propagated by contagion, it may be produced de novo, when a large number of human beings are crowded into a small unventilated space, the ammoniacal exhalations being increased and concentrated, and generating by their putrefaction the poison of typhus. Numerous facts, some observed by himself, others recorded by previous observers, are adduced by Dr Murchison in support of this doctrine, and it is shown that the disease often arises in our great cities independent either of importation or contagion. But lest such cases should be objected to as admitting of another explanation, our author strengthens his position by a reference to circumstances where typhus has shown itself in its most virulent form, and where its origin by contagion was impossible, as in the case of the fevers which have devastated our jails, our armies, and our fleets. The section devoted to this subject is altogether one of great interest, and Dr Murchison has brought forward an amount of evidence in support of his conclusions, which warrants, or indeed compels us to accept them. These conclusions are the following:—

"1. Typhus is due to a specific poison.

"2. This poison is communicated from the sick to the healthy, through the atmosphere or by fomites, but is rendered inert by free ventilation.

"3. The poison is also generated de novo, by overcrowding and bad ventilation.

"4. The great predisposing cause of typhus is defective nutrition."

The next section, on the symptoms of typhus, is very fully and carefully worked out. Dr Murchison first gives a clinical account of the disease, and then considers the more important symptoms in detail. We extract the following excellent description of the typhus eruption:—

"Between the fourth and the seventh days, usually on the fourth or fifth, an eruption makes its appearance on the skin. It is composed of numerous spots of irregular form, varying in diameter from three or four lines to a mere speck, which are either isolated or grouped together in patches presenting a serpigenous or very irregular outline, and often closely resembling the eruption of measles. At first, these spots are of a dirty-pink or florid colour, and very slightly elevated above the skin, and they disappear upon pressure; but, after the first or second day, they usually become darker and more dingy, they resemble reddish-brown stains, are no longer elevated above the skin, and do not disappear, but only become a little paler, on pressure. They have no defined margin, but merge insensibly into the colour of the surrounding skin. These spots usually come out first over the abdomen, and thence they spread to the chest, back, shoulders, thighs, and arms; in some cases they are first seen on the backs of the hands; they are most common on the trunk and arms, and are rarely observed on the neck or face. Along with these superficial
spots, there are others which are paler, less distinct, and which, from their apparent situation, beneath the cuticle, have been designated 'subcuticular.' When abundant, this subcuticular rash imparts to the skin a mottled or marbled aspect, which contrasts with the darker more defined spots before described, although sometimes the two appear to pass into one another. The eruption of typhus varies greatly in its appearance, according to the relative abundance of the mottling and more distinct spots. Sometimes both are plentiful; sometimes there are only a few of the more distinct spots; and at other times, there is nothing but a faint subcuticular mottling, which is apt to be overlooked. Its appearance also varies according to the degree of isolation or confluence of the distinct spots. The spots and mottling together constitute an eruption which Jenner has described as the 'mulberry rash' of typhus, but which other writers have designated measly, morbilliform, or rubeoloid."—P. 127.

This description is illustrated by beautifully executed lithographs of the eruption.

General convulsions, as is well-known, constitute one of the most formidable symptoms of typhus, and in reference to the pathology of the disease, it is interesting to find that in the great majority of cases, convulsions are associated with an albuminous condition of the urine: it is therefore nearly certain that convulsions in typhus have a uræmic origin; and this opinion is still farther confirmed by the circumstance, that Dr Christison and other observers have detected abundance of urea in the blood of patients labouring under this manifestation.

A full account is given of the complications and sequelæ of typhus. We can only direct attention to Dr Murchison's account of the inflammatory swellings or buboes which are not uncommonly met with. These generally occur towards the termination of the primary fever, and though most frequently affecting the parotid and submaxillary regions, are also met with in the axilla, the groin, the mamma, the arms, the thighs, and legs. These swellings are always considered as a formidable complication of the fever. Buboes, it is well known, constitute one of the most characteristic symptoms of the oriental plague, and Dr Murchison, in connexion with this subject, brings forward various arguments to prove that there is a strong analogy between typhus and the plague in their causes and their symptoms, and that, in fact, typhus is probably the plague of modern times. Plague, in early times a frequent scourge of this country, has been for long unknown in London, and is now far less frequent than formerly in the East; and there can be no doubt that, in this country at least, improved hygienic arrangements in regard to dwelling-houses have led to its disappearance. The great fire of 1666 did more in banishing plague from London, than could have been effected by any of our modern legislative enactments.

The treatment of typhus recommended by Dr Murchison is based on a careful consideration of the pathology of the disease. "Our objects," he says, "in the treatment of typhus, should be,—1. To neutralize the poison, and to correct the morbid state of the blood; 2. To eliminate the poison and the products of the destructive meta-
morphosis of tissue; 3. To reduce the temperature; 4. To sustain the vital powers, and to obviate the tendency to death; 5. To relieve the distressing symptoms; and, 6. To avert and attack local complications. By such means nature is assisted in effecting a cure; for it is wrong to imagine that it is a matter of indifference what plan of treatment is adopted." The first of these indications is to be fulfilled by the administration of the mineral acids, especially the nitro-muriatic; the second, by the addition of five-grain doses of the nitrate of potash to the acid drink, by the use of the bitartrate of potash and gentle laxatives; the third, by sponging the surface, or the cold affusion; the fourth, by means of nutritive and easily digestible food, and the administration of stimulants; while the fifth and sixth are to be carried out according as the circumstances of particular cases demand. In speaking of the treatment by bloodletting, at one time a favourite remedy, but now most properly discarded, Dr Murchison takes occasion to refer to the change in type which is supposed to have taken place in various acute diseases, especially in fever. To this doctrine Dr Murchison demurs, and in regard to fever he believes and proves that the change has been one, not of type, but of disease. The explanation consists in this, that the epidemics in which bloodletting seemed to be attended with success, were examples, not of typhus, but of relapsing fever, in which the mortality is naturally small, although it was probably increased by this very agent. The same subject is alluded to on several other occasions, and the observations regarding it (originally published in this Journal nearly five years ago) are highly creditable to the sagacity of the author.

The third chapter treats of relapsing fever in the same able and exhaustive manner as was displayed in the consideration of typhus. Our limits, however, prevent us from doing more than refer very briefly to the etiology of this disease. That relapsing fever is contagious, probably to much the same degree as typhus, is proved by abundant evidence. That it is susceptible of spontaneous generation seems equally to admit of no doubt; it disappears for prolonged periods, and manifests itself under circumstances where its outbreaks cannot be explained by importation, but are evidently connected with certain external conditions. These conditions consist in the existence of great destitution, whether caused by the failure of harvests or by want of employment. It does not seem due, like typhus, to overcrowding of the population, though the action of the poison whence once generated is strongly favoured by deficient ventilation; for it has frequently shown itself in small villages, well-aired country districts, and even in the most isolated situations. That the generation of the poison is closely connected with destitution is sufficiently proved by the names given to the disease by various writers; it is the famine fever of the Irish, the Armentyphus and Hungerpest of the German writers. Dr Murchison's opinion is strongly in favour of this view of its generation; but though there
can be do doubt that this form of fever and destitution are closely connected, we question whether the disease can be produced by famine alone; it does not occur in isolated instances of starvation, and in all probability some other, and as yet unknown, agency is at work. The following passage contains a resumé of Dr Murchison’s opinion on the subject.—"Of all the causes that can be assigned for the origin of relapsing fever, it seems to me that destitution is the most tenable. 'We give the name,' says Brown, 'of cause to the object, which we believe to be the invariable antecedent of a particular change;' and such appears to me to be the relation of destitution to relapsing fever. But whether or not they stand in the relation to one another of cause and effect, the intimate connexion between them is indisputable. The facts bearing on this point are most important, even if the theory founded on them be not accepted."

The third variety of fever treated of is the "pythogenic or enteric." This in some respects is the most interesting of all, as it has only lately been distinguished as a special form of disease, and as its exact position in a pathological classification is by many held to be not yet decided. We are sorry to have to differ from Dr Murchison in the very beginning of this section, for we cannot express our approval of the nomenclature proposed. Dr Murchison very properly objects to the use of the term typhoid, as leading to an erroneous notion of the nature of the disease. Modern research has shown that there are most important differences between this fever and typhus; and it is certainly at utter variance with scientific precision to designate one disease by a term intended to show its similarity to another from which, however, it is essentially distinct. We are, therefore, quite willing to drop the term typhoid as applied to this fever. We cannot, however, consent to accept the substitute proposed by Dr Murchison. Believing that this fever is generated by decomposition, Dr Murchison, some years ago, proposed to designate it as "Pythogenic" (πυθογενής from πυθών (πυέωμαι, putresco) and γενώ), and employs the appellation in his present work. For several reasons we object to this term; in the first place, we do not think it desirable in the present state of our knowledge to attempt to introduce a strictly scientific nomenclature of disease, and even if it were possible, etiological considerations would not form the best foundation; in the second, it is by no means universally admitted that putrefaction is the cause of the disease in question, and it is not permissible to endeavour by a new name to support a still doubtful theory; and, in the third place, we already possess in the term enteric an appellation nearly unexceptionable, which is simply suggestive of one of the chief characters of the disease, and which we cannot agree with Dr Murchison in considering as calculated to convey the erroneous impression, that the fever is the result of the intestinal lesion. We cannot, therefore, consent that the new,

1 Inquiry into the Relation of Cause and Effect, 3d ed., Edin. 1818.
and by no means euphonious term, shall take the place of the already familiar designation.

On looking back to the older authors, it seems certain that some of their descriptions apply to this form of fever, but it was not till our own day that it was accurately differentiated from typhus. Many, indeed, still maintain that typhus and enteric fever are mere varieties of the same disease, and this is an example of the difficulty of seizing the points of difference between somewhat allied diseases. In the present day it seems strange to us that small-pox, measles, and scarlatina should ever have been confounded together; but we have no doubt that it will be equally surprising to our successors, that careful observers should ever have doubted of the non-identity of typhus and enteric fever. Dr Murchison has furnished us with an exceedingly careful and discriminating history of the progress of opinion on this subject; he has shown how, between 1734 and 1738, a distinction was drawn by Gilchrist and Huxham between the slow nervous fever and the malignant fever of the hospital; how the intestinal lesions of the former had been noticed by John Hunter; how Bretonneau proved that enteric fever was always localized in the solitary and agminated glands of the ileum; how finally, mainly owing to the researches of Dr A. P. Stewart and Dr Jenner, the specific characters of the two diseases were established.

The etiology of enteric fever is interesting, and there is still some difference of opinion in regard to it. There have been disputes as to whether or not it is contagious; Andral, Chomel, Dr Stewart, and many others have expressed doubts as to its ever being communicated in this way; others have believed it to be communicable, though in but a limited degree; while Dr W. Budd maintains that the contagious nature of enteric fever is the "master-truth" in its history. We agree with Dr Murchison in believing that while it cannot be denied that the disease is communicable by some poison emanating from the bodies of the sick, the diffusion of the disease is not to be accounted for in this way. A more difficult question is that regarding the mode of generation of the poison. So far as we know, no attempt was made to explain its origin, which was merely alluded to as obscure and unknown, until in 1858 Dr Murchison presented to the Royal Medical and Chirurgical Society an essay in which he endeavoured "to prove that fever arising from sewer emanations was always enteric fever, and never typhus or relapsing fever; and to show that this mode of origin explained why enteric fever was endemic in many places, but often epidemic in circumscribed localities; why it attacked the rich as well as the poor; why it occurred in isolated country-houses as well as in large towns, and why it was most prevalent in autumn and in warm seasons." In his present work Dr Murchison repeats a portion of the evidence he formerly adduced, and brings forward additional facts in favour of his opinion. To our mind Dr Murchison has made out his case;
there is an amount of evidence arising from the appearance of the fever in circumstances where contagion, the possibility of importation, and all other agencies with a single exception were excluded, that we feel bound to believe that sewer emanations, or drinking water contaminated by sewage, are the ordinary exciting causes of the disease. The only other theory as to the origin of enteric fever to which we need advert, is that advanced by Dr W. Budd, and supported by Mr Simon. According to Dr Budd, the poison of enteric fever, although contained in sewage, is always derived from the alvine evacuations of an individual already labouring under the disease, and drains are merely the vehicles of its propagation. While we fully admit, as Dr Murchison and most others do, that the poison is contained in the stools, and that emanations from them are the chief mode of communication from the sick to the healthy, we cannot agree with Dr Budd in believing that the existence of such stools is essential to the production of the disease. In fact, this theory denies the spontaneous origin of enteric fever; for, if the alvine evacuations of an enteric patient are necessary for the production of the disease, it is evident that in the absence of such evacuations the disease cannot show itself. But as there is evidence that enteric fever does arise de novo, and as Dr Budd’s theory does not explain how this takes place, we are forced to seek for a more general mode of causation, and this we think we find in the action of the gases emanating from sewers. Dr Murchison’s conclusions we give in his own words,—"The etiology of pythogenic fever may be thus summed up:—

"1. Pythogenic fever is either an endemic disease, or its epidemics are circumscribed.
"2. It is most prevalent in autumn and after hot weather.
"3. It is independent of overcrowding, and attacks the rich and poor indiscriminately.
"4. It is often generated spontaneously by faecal fermentation.
"5. It is occasionally communicated by the sick to persons in health.
"6. This transmission is probably effected by the stools, which are usually prone to decomposition."

The symptoms of enteric fever are described with great accuracy and minuteness, and, as in the case of typhus, the appearance of the eruption is illustrated by admirably executed lithographs. Great stress is laid upon the eruption as a diagnostic character of the disease, and as we have already quoted Dr Murchison’s account of the typhus rash, we may, by way of contrast, extract a portion of the description of the appearance of the skin in this disease:—

"The eruption of pythogenic fever consists of isolated lenticular spots—the ‘taches roses lenticulaires’ of Louis. Their colour is rose or pink, but varies slightly in tint, according to that of the patient’s skin. Their form is rounded and regular; their margin is well-defined; and they measure from half a line to two lines in diameter. When the point of the finger is passed gently along the skin, each spot can in most cases be felt slightly elevated above the surface."
Their outline is rounded and convex, but not acuminated. They are never indurated; but, in very rare cases, a minute vesicle may be discovered at their apex. They are never converted into petechiae; but during the whole period of their existence they disappear completely on pressure, and return when the pressure is removed. They are never observed on the dead body. They are developed in successive crops, each spot lasting three, four, or five days, and then fading, while fresh spots continue to appear. I have verified this observation hundreds of times, by surrounding daily every fresh spot with a circle of ink, and writing the date of each on the skin. The number of these spots is usually small; and hence they are often overlooked. In most cases, the number present at one time does not exceed twenty or thirty; and sometimes three or four spots are all that can be discovered. Occasionally, however, the spots are very numerous, and then the edges of two contiguous spots may cohere. Still this is a rare circumstance, and the spots are never seen to merge into irregular patches, as occurs in typhus."—P. 468.

So much stress is laid upon the characters of the eruptions in the two diseases, that at a later part of his book Dr Murchison lays down the two following propositions:

"1. When lenticular rose-spots, as described at page 468, appear in successive crops in the course of continued fever, the abdominal lesions of enteric fever are invariably present.

"2. When the eruption of typhus, described at pages 117 and 127, shows itself in the course of continued fever, the abdominal lesions of enteric fever are absent."—P. 581.

The treatment of enteric fever is founded upon the same principles as those which should guide us in the management of typhus; it is modified, however, by the circumstance, that in the former the state of the intestines constitutes a formidable local complication, and that diarrhoea is the principal symptom demanding interference. In the treatment of diarrhoea, Dr Murchison trusts chiefly to acetate of lead in three-grain doses, with or without the eighth of a grain of acetate of morphia, although other remedies may sometimes be resorted to with advantage.

A separate chapter is devoted to a consideration of the specific distinctions of typhus and enteric fever. In it, Dr Murchison sums up the evidence derived from symptoms and post-mortem appearances, as well as from etiology, and arrives at the conclusion, in which we thoroughly concur, that the two diseases are essentially distinct, are characterized by different symptoms, are accompanied by different morbid appearances, and are generated by different poisons. In regard to this question it is very important to know that while an attack of one fever generally confers an immunity from a subsequent attack of itself, it is not protective against the other.

In taking leave of this work it is scarcely necessary to express in formal terms our high sense of its value; it is a very important addition to medical literature, founded upon extensive experience, illustrated by unwearied research, and characterized by clearness and accuracy of reasoning; while its author has on all occasions been careful to assign to his predecessors in the inquiry their full share of merit. A subordinate, though by no means a trifling
recommendation, is the presence of a copious bibliography, and a full general index.

Dr Tweedie's book is of a different character from Dr Murchison's. It consists of a republication of his lectures delivered before the Royal College of Physicians: before such an audience a consideration of the more obscure points of etiology and pathology would manifestly have been out of place, and the work is rather a good practical account of what has been well ascertained regarding the different forms of fever, than an attempt to extend our knowledge of their causation or essential nature. Though the work fully carries out the object proposed by its author, our remarks regarding it must necessarily be very brief.

Dr Tweedie is a believer in the non-identity of typhus and enteric fever; and his testimony on this point is the more valuable, because he was for many years a warm supporter of the opposite doctrine. A careful consideration of the writings of modern authors, but more particularly the investigations carried on by Dr Jenner under his own observation in the London Fever Hospital, convinced him that these are distinct diseases, and he now unhesitatingly maintains "that the two forms, though having a close resemblance in the general symptoms, and having many features in common, are as distinct from each other as they are from periodic or from exan-thematous fevers." The arguments brought forward in favour of this view are founded upon the symptoms and mode of access of the two diseases, the duration of the symptoms, the character of the respective eruptions, the different susceptibility to the two forms at different periods of life, the causes which produce them, their different degrees of contagiousness, and the results of treatment.

After having discussed the general question, Dr Tweedie proceeds to consider the different forms of fever in detail, and gives a very good account of their symptoms, morbid anatomy, and the treatment required. Four coloured plates give a very fair idea of the characters of the eruptions in typhus and enteric fevers, and of the appearances of the intestinal ulcers in the latter disease. The lectures altogether are evidently the production of a man who has had an extensive experience in the treatment of fever, and who has turned his experience to a good account. In one respect Dr Tweedie has left his work imperfect; he has furnished no index to his book, and the table of contents at the beginning of the volume is of the most meagre possible description. In the present day, when every one endeavours to live as fast as possible, there is really no time to be spared for hunting through three hundred pages, in order to discover the opinions of an author on a particular point. Dr Tweedie also has not been sufficiently careful in quoting his authorities; no doubt the fact of the form of lectures having been adopted, was the cause of this; but when he decided upon publication, he would have done more justice, both to himself and others, had he
been more particular in this respect. As a specimen of Dr Tweedie’s style, we may quote the following observations regarding the use of wine in enteric fever:

"To sum up the question of the administration of wine in enteric fever, I would observe,—1st, that it should not be prescribed indiscriminately, but as an occasional remedy in special cases; and, 2d, when there is doubt as to the propriety of giving or withholding wine, if the case be one of well-marked enteric fever, especially in the early stage, it will be safer to withhold it, at all events for a time; and, 3d, in every case, but particularly when wine is not clearly indicated, the effect of the first few doses should be closely watched, and if the general complexion of the symptoms be improved, it may be continued with care; if, however, it excite the patient, if restlessness and delirium be induced, if the tongue become more and more dry, the pulse more rapid and wiry, you may infer that wine is not suited to the case—at all events, at its present stage—and it should therefore be withdrawn."—P. 243.

And, again, in speaking of the excessive amount of stimulants which have lately been recommended in London, he says,—

"The enormous quantities of wine and brandy recommended in even the early stage of fevers, whatever be the form, the individual circumstances, or whether there be local affections present, have often surprised me, and inclined me to doubt the accuracy of the statements. I have certainly seen intercurrent inflammation materially aggravated by the injudicious stimulation adopted, and on more than one occasion all the ordinary characters of acute delirium tremens supervene, when the unlimited administration of brandy had been left to the discretion of a nurse, who fancied that she was only obeying instructions when she poured down dose after dose. There is surely no practical philosophy in such indiscriminate abuse of a really valuable remedy when given on rational principles; and I deem it the duty of every physician who is convinced of the dangerous tendency of the Brownonian doctrine applied indiscriminately in the treatment of diseases, acute as well as chronic, to express his opinion boldly and definitely, that the young and inexperienced practitioner may be warned of the dangerous consequences of this recently revived doctrine."—Pp. 265–66.

On Long, Short, and Weak Sight, and their Treatment by the Scientific Use of Spectacles. By J. Soelberg Wells, M.R.C.S., M.D., etc. London: John Churchill: 1862.

All surgeons are well aware of the very great harm often done in the cases of patients labouring under affections either of the accommodation or refraction of the eye, by the hurried, indiscriminate, and unscientific manner in which the spectacles are selected, by which they expect to benefit.

A shortsighted child finds the glasses of some older friend lying about the house, and though they make his eyes ache he finds they increase his powers of vision. He continues to use them, though far stronger than he really requires. The consequence is a permanent increase in his myopic condition, and the necessity for the constant use of lenses the strength of which requires to be occasionally increased.

Some patients, too, have the idea that one pair of glasses is as
good as another, or a deal better, and thus purchase new ones, or
obtain loans from their friends, with an utter disregard of the nature
or extent of the defect which requires the instrumental aid.

The treatise before us is an account of the different theories regard-
ing the affections of accommodation and refraction, which constitute
long, short, and weak sight respectively, and is meant as a guide for
the surgeon in their differential diagnosis, and also in the selection
of lenses which shall exactly suit each case.

Chapter I. contains a brief but accurate account of the mechanism
of accommodation of the eye, and a short notice of the various
theories regarding it. The idea that an alteration in the refractive
power of the cornea is the cause, is disproved by Helmholtz's
ophthalmometer, which shows that no change in its curvature takes
place. Arlt's view that the muscles of the eyeball assist the in-
ternal structures is disproved by Von Graefe's case, in which all the
recti and obliqui muscles of both eyes were paralyzed, and yet the
power of accommodation was perfect.

Dr Wells adopts the theory of Cramer and Helmholtz (regarding
the correctness of which few anatomists now entertain any doubts),
that the necessary change in the refraction of the eye during accom-
modation is due to an alteration in form of the crystalline lens.
This change is in the curvature of the anterior and posterior surfaces,
and not due (as some wrongly interpreting the Germans have sup-
posed) to any alteration in the position of the lens.

How is this alteration in form caused? Cramer ascribes it to
simultaneous tension of the radiating and circular fibres of the iris.
To this Donders adds the ciliary muscle, which, by its contraction,
drawing the peripheral edge of the iris backwards against the wall
of the canal of Schlemm, forms a fixed point for the action of the
radiating fibres of the iris. Helmholtz and Heinrich Müller both
give special prominence to the action of the ciliary muscle combined
with that of the iris, and Mr Wells gives a brief summary of their
views, especially the observations of the latter on the two different
sets of fibres in the ciliary muscle.

Dr Wells is disposed, however (on the strength of a single case
of complete removal of the iris in Von Graefe's clinique, in which
the power of accommodation was still normal), entirely to dispense
with the action of the iris in his explanation of the process of
accommodation, and to give the whole credit to the ciliary muscle.

We cannot on this single evidence consent to deprive the iris of
its share in the work, especially when we remember the power
nature has to supply deficiencies in one part by giving added function
to another. We have no more right, on the evidence of Von Graefe's
case, to exclude the iris from participation in the changes for
accommodation, than we would have to say that the crystalline lens
has nothing to do with vision, because we occasionally find patients
who can see tolerably well after its removal, or where it is con-
genitally absent.
An interesting chapter on the range of accommodation introduces the subject of myopia, in which condition the range of accommodation is diminished, unless the eye be assisted by a concave lens. After speaking of the ordinary causes of shortsight, such as hereditary predisposition, excessive use of the eyes upon small objects, as in fine needlework or engraving, Dr Wells directs attention to an alleged cause of shortsight hitherto little understood—scleroticochoroiditis posterior. The textural change, the result of this local inflammation, is said to cause a lengthening of the antero-posterior diameter of the eyeball, as a result of which parallel rays meet in focus in front of the retina. But we cannot, without some caution, accept this as an explanation or cause of myopia, for it implies the existence of a stage in this scleroticochoroiditis posterior in which there is a textural change sufficient by its mere mechanical thickening to alter the focus of vision, while at the same time it has caused no change in the distinctness of vision, if the focal error be corrected by the use of a lens.

Besides this, neither the ophthalmoscopic appearances, nor the usually well-marked subjective signs of choroidal inflammation are present in the scleroticochoroiditis.

The section in this chapter, which explains Donder’s method of estimating the degree of myopia, will prove very useful to any one who has not access to the original.

A short account of presbyopia is followed by an interesting chapter on hypermetropia,—“that peculiar condition of the eye in which its refractive power is too low, or its optic axis (antero-posterior) too short,” and to which many cases of that peculiar weakness of sight asthenopia may be referred. In hypermetropia, parallel rays are united not on the retina but behind it, and thus we are enabled to explain those curious exceptional cases in which convex glasses are found to assist in distant vision, while similar, or even stronger lenses are required for near objects.

A notice (necessarily very brief from our at present limited knowledge) of paralysis, spasm, and atony of the ciliary muscle concludes this very practical yet scientific treatise, in which the latest views of the German ophthalmologists are presented to English surgeons in a compact and readable form.

The Spas of Europe. By Julius Althaus, M.D. 8vo, pp. 494. London: Trübner and Co.: 1862.

The interest attaching to mineral waters is most naturally developed to its fullest extent in those countries which abound in the commodity in question. Mineral waters are not only valuable medicinally, but are, moreover, of vast commercial importance. Strip the continent of Europe of its medicinal springs, and at once
a large source of its income perishes, just as, in kind, though in a much higher degree, would result from a failure of the coal and iron royalties of Great Britain. This country has at no period been very famous for its mineral waters; still less so now, when fashion and facility both lead to the crowded resorts of Germany and the Pyrenees. Probably it is due to the questionable merits of most of the medicinal waters of this country that our valetudinarians are compelled to seek in foreign lands that healthy influence which is denied to them at home. At least, in part, this must be the cause, for wherever there is unmistakable merit, thither will the tide of health-seekers flow. Undeniably, however, fashion, guided frequently in these matters by attendant frivolity, too often steers from our shores the bark freighted with _soi-disant_ invalids,—for they are not all _invalids_ who journey to Baden. But, it may be asked, why may not they who are really sick have their necessities supplied by the importation of foreign mineral waters, or, knowing their chemical constitution, by factitious drinks, and so be spared the expense and tedium of a long journey, and the too often injurious results of the exciting whirl of a continental watering-place? Dr Althaus tells us that one reason why medical practitioners ought to be acquainted with the action of mineral waters, is because of their more common use in the present day, and that partly on account of "the high degree of perfection attained in the manufacture of artificial mineral waters." We confess to a want of faith both in factitious and bottled mineral waters. If kept too long the virtues of the water must be impaired; its salts change their character more or less; its gaseous elements are either altered or lost, and if originally of high temperature, no subsequent application of artificial heat can restore it to its former state. In many cases, no doubt, in which the water is used within a short time of its importation, and in which the disease and the application are well adapted, beneficial results will follow; but to the crowd of health-seekers making its annual rush to the Continent, more than the mere mineral water is essential, fresh though it be from the bosom of its parent earth. Like the motley assemblage gathered in St Paul's Churchyard on a foggy 9th of November, it is not the chief magistrate, but the Lord Mayor's show it goes to see.

According to our author, every country in the world is possessed of mineral waters—from the torrid to the frigid zones, from Siberia to the Cape of Good Hope. To follow him through his wanderings from place to place is beyond our province; but there are many of the shorter passages of the work from which an occasional quotation may be given to show the general scope of Dr Althaus's remarks. We are glad to find that charlatanism is on the wane, so far as mineral waters served its purpose; but we fear, even with our author's judicious reserve, that there is still a great deal more of knavery practised at many of the continental spas than he allows.

"The mode of using mineral waters is now widely different from what it was in former times. The principle, that the benefit is more considerable the more
water is drunk, and that the 'crisis' and 'critical excretions' are necessary if the treatment is to be successful, is now rejected by all enlightened members of the medical profession. Many cases have occurred in which large quantities of water drunk in rapid succession have not only greatly disturbed digestion, but have caused dropsy and general prostration; and a moderate use of the springs is, at the present day, justly believed to be the only safe plan. The rules to be observed for the use of mineral waters have also been greatly changed. He no longer advises 'preparatory cures,' 'great cures,' 'little cures,' 'prophylactic cures,' and 'after cures;' but the mode of treatment is made to suit the requirements of each individual case."

Describing the class of patients to which mineral waters are suitable, Dr Althaus says:—

"Spas are only suitable for patients suffering from chronic diseases, and in those only if the composition of the blood has not become too much altered, and in the absence of considerable structural changes of important organs."

That the author himself believes in the determining influence of surrounding objects at the several spas, is shown in the following remark:—

"The pleasant neighbourhood and sublime scenery which surrounds many spas greatly aid the curative effects of the waters; while the gloomy and wild aspect of others may, at least in a certain number of cases, retard the benefit which would otherwise accrue from the peculiar virtues of the springs."

In the several chapters into which the work is divided, the history, physical properties, chemical composition, geographical distribution, physiological action, and therapeutic uses of mineral waters are treated of; and a general description, with chemical analysis, of each of the spas mentioned is given. "The numerous questions connected with the nature and action of mineral waters," from the preface, "have been the subject of long and earnest study on my part; and having been often asked for information respecting them by my professional brethren and others, I now venture to submit to their notice this treatise, which, it is hoped, may fill up a hiatus that has hitherto existed in British medical literature." We cordially commend Dr Althaus's book to the consideration of our readers, believing that he has done good service in placing before the profession so much information in so agreeable a form.

With a view to the convenience, and as an aid to the memory of the reader, Dr Althaus has constituted the following classification of mineral waters in accordance with their chemical composition:—

1. **Alkaline Springs**: (a) *Alkaline acidulous springs*. Chief contents: carbonic acid and bicarbonate of soda; representative, Vichy. (b) *Alkaline muriated acidulous springs*. Chief contents: carbonic acid, chloride of sodium, and bicarbonate of soda; representative, Ems. (c) *Alkaline saline springs*. Chief contents: bicarbonate and sulphate of soda; representative, Carlsbad.

2. **Bitter Waters**: Chief contents: sulphates of soda and magnesia; representative, Friedrichshall.

3. **Muriated Waters**: (a) *Simple muriated waters*. Chief contents: a moderate amount of chloride of sodium; representative, Wiesbaden. (b) *Muriated lithia waters*. Chief contents: chlorides of sodium and lithium; representative, Baden-Baden (Murquelle). (c) *Brines*. Chief contents: a large amount of chloride of sodium; representative, Rheine. (d) *Iodated muriated springs*. Chief contents: iodide of sodium; representative, Castrocaro. (e) *Bromated
muriated springs. Chief contents: bromide of magnesium; representative, Kreuznach (Oranienquelle).

4. Earthy Springs. Chief contents: Carbonate and sulphate of lime; representative, Leuk (Louéche).

5. Indifferent Thermal Springs. Chief contents: a very small amount of salines; representative, Gastein.

6. Chalybeates: (a) Acidulous chalybeates. Chief contents: carbonic acid and bicarbonate of protoxide of iron; representative, Schwalbach. (b) Saline acidulous chalybeates. Chief contents: sulphate of soda and bicarbonate of protoxide of iron; representative, Franzensbad.

7. Sulphurous Springs: (a) Springs containing sulphuretted hydrogen; representative, Eilsen. (b) Springs containing sulphures of metals; representative, Bagnères de Luchon.

Die Musculatur am Boden des Weiblichen Beckens. Von Dr HUBERT LUSCHKA, Professor der Anatomie in Tübingen. [The Muscular System of the Floor of the Female Pelvis. By Dr HUBERT LUSCHKA, Professor of Anatomy in Tübingen.]

Illustrations of the Surgery of the Female Pelvic Organs, in a Series of Plates taken from Nature; with Physiological and Pathological References. By HENRY SAVAGE, M.D. Lond., F.R.C.S., Physician to the Samaritan Hospital for Women. Churchill: London: 1863.

Both of these excellent works are illustrated by beautiful plates. Those of Dr Savage are got up in the style of the magnificent anatomical works of Bourgery and of Hirschfeld, and a coincidence in the name of M. Leveille, who is the draughtsman, leads us to think there is even a closer connexion between them than mere resemblance of style. Dr Savage, indeed, acknowledges, in regard to some of them, that they are copied from Hirschfeld (and Leveille’s) work. These plates are said to be drawn from nature; but this gives a very erroneous idea, if it is intended to imply that they are drawings of dissections. They are a refined ideal view of what a dissection might be, just as a Venus in marble might be said to be “from nature,” without a wrinkle or spot or any such thing. Let any one inspect, first, a dissection of the female perineum, and then these plates, and he will appreciate what an anatomist may mean by “drawn from nature.” We do not make these remarks with any wish to depreciate the great beauty and value of Dr Savage’s work, which we recommend to the profession. At the same time we wish he had entered upon the subject of the relations of the female pelvic organs to one another in states of repletion and vacuity in the living female, and availed himself of the homolographic sections made by aid of congelation and otherwise. His Plate VI. might have been made greatly more correct, more from nature, and more valuable by this means. We find that Dr Savage adopts, in the main, the usual descriptions of the muscles of the female pelvis. In our heading to this article we have placed an excellent, laborious, and exact work, by Dr Luschka, to which Dr
Savage might be expected to have referred. We cannot pretend to say that we have verified Dr Luschka's observations, but they have every appearance of being substantial anatomical discoveries, or improvements in anatomical description, and they are endorsed by an author of high reputation. When we tell British readers that Dr Luschka describes a retractor ani, a compressor bulborum, a constrictor vestibuli, a levator vaginae, and gives minute and new descriptions of portions of the well-known muscles of the part, it will be evident that a deal of new work has been done in this region; and while Dr Savage's work is of this year, Dr Luschka's was published in 1861.

Dr Luschka simply and barely describes the muscles of the region embraced in his monograph. Dr Savage intersperses his anatomical descriptions with practical reflections and advices, and we have been highly gratified by their soundness and philosophical spirit.

Clinical Observations in Surgery. Part II. By Dr Fayrer, Professor of Surgery and Surgeon, Med. Col. Hospital. Calcutta : 1863.

That Dr Fayrer is an enterprising and successful surgeon is proved both by his former writings and by the present publication. This little work of fifty-six pages contains an account of many interesting cases and important operations. As elephantiasis genitalis, or hypertrophy of the coverings of the genital organs, is of rare occurrence in this country, we may briefly give Dr Fayrer's experience in regard to it. During the three years from May 1859 to July 1862, he operated on account of this disease twenty-eight times; twenty-two of the patients recovered, and in all these, the functions of the organs appear to have been restored; six died, one from shock and slight haemorrhage supervening three hours after the operation, the others from pyaemia. The disease, from Dr Fayrer's account, seems to be far more common among the Hindoos than among the Mahometans. Age appears to have an important influence in determining its occurrence; only four of the patients were below thirty, eighteen were between thirty and forty, four were between forty and fifty, and one was fifty years of age; the youngest patient was aged twenty-one. In reference to this fact, it may be interesting to mention that Professor Syme lately operated successfully on account of this disease on a boy of only thirteen. Dr Abbate of Alexandria, who has had much experience in this disease, saw the patient with Mr Syme, and recognised the case as one of true oriental elephantiasis; he was present at the operation, and stated that he had never seen the disease in so young a subject. The patient, it may be added, was a native of Scotland, and no cause whatever could be assigned for the disease.

Dr Fayrer's pamphlet contains cases of various other forms of disease, and is altogether creditable to the medical school of Calcutta.