When the strychnia is employed as a tonic, the dose of the solution is 5 minims, and it may then be exhibited twice daily with safety and advantage.

It would be a great convenience if all our solutions—and under that name might be included the stronger tinctures, as those of digitalis, aconite, opium, and Indian hemp—were made so as to have a commencing dose of 10 minims, which admits, as I have said, of easy lowering for the child, and when increased, does not involve the giving of too much spirit. By helping the memory, such an arrangement would promote materially efficient treatment. There can be few practitioners who are not conscious that in their daily practice, good opportunities of using active drugs are allowed to slip, because, at the moment of prescribing, the memory is not faithful as to the exact dose. A pharmacopœia which made the doses equal of all preparations bearing the same name would help to remove this difficulty.

Part Second.

REVIEWS.

Studies for a History of Nervous Diseases consequent upon Syphilis. By Gjör. Norsk Mag., vol. xi.

Des Affections Nerveuses Syphilitiques. Par les Drs Gros et E. Lancereaux. Ouvrage couronné par l'Academie de Médecine. Prix Civrieux, 1859.

De la Syphilis dans ses rapports avec l'Aliénation Mental. (Dissertation Inaugurale.) Par le Dr Hildenbrandt. Strasbourg: 1859.

Des Paralysies Syphilitiques. (Dissertation Inaugurale.) Par le Dr Ladreit de Lacharriere. Paris.

Maladies Syphilitiques du Système Nerveux. Par le Dr Lagneau, fils. Paris: 1860.

Des Affections Nerveuses Syphilitiques. Par D. A. Zambaco, Docteur en Médecine de la Faculté de Paris, etc., etc. Ouvrage couronné par l'Académie Imperiale de Médecine. Prix Civrieux, Concours de 1859. Paris: 1862.

[Syphilitic Affections of the Nervous System. By Dr D. A. Zambaco. To which the Civrieux prize for 1859 was awarded by the Imperial Academy of Medicine. Paris: 1862.]

The last work in our list, which emanates from the school of Ricord, is not a mere compilation, but the result of careful research and the study of cases occurring in hospital and private practice. Dr Zambaco its author, who, we presume, is a Greek by birth, distinguished
himself as a student, a graduate, and house-surgeon in the French capital, and, having enjoyed the inestimable privilege of being under Ricord in the Southern Hospital, brings to this task, which has gained him such well-deserved laurels, all the knowledge and critical acumen which are so well known to characterize that much beloved master, who is universally acknowledged as facile princeps in this department of surgical pathology.

The subject given out for the 1859 competition for the Civrieux prize was, "Nervous Affections due to the Syphilitic Diathesis;" and in considering this subject, in order to form a common platform by which the logical integrity of his work should be estimated, Dr Zambaco first explains the signification he attaches to the words "nervous affections," and then sketches in a general way the history and characters of the syphilitic diathesis. Having thus defined the two essential terms of the problem assigned for solution, Dr Zambaco enters very fully into the pathological anatomy of the syphilitic disorders of the nervous system, but not more so than is commensurate to the importance of the subject.

To facilitate the description of the diseases, they are considered as belonging to three classes,—1st, Those which are characterized by an impairment of the motor functions of the nervous system; 2d, Those which are manifested by perversion or abolition of general or special sensibility; 3d, Those affections which disturb the intellectual faculties. But as this classification does not include such affections as hysteria, epilepsy, chorea, etc., these affections of the nervous system are considered along with the disturbances of the intellectual faculties, under the head of syphilitic neuroses. Furthermore, a chapter on syphilitic paralysis sine materia, and syphilitic intermittent fever, occupies a position in the work midway between the affections of sensibility and the neuroses we have already alluded to. The work concludes with chapters on diagnosis, prognosis, and treatment.

To an analysis of this last portion of the work we propose to confine ourselves in this review.

The diagnosis of diseases of the nervous system as depending on syphilis is surrounded with difficulties; but in general terms it may with truth be said, that while no one symptom is pathognomonic of a disease being due to such a cause, the past history and a careful examination of the present condition of the patient are alone calculated to enable the practitioner to discover the essential cause of the malady. The question of diagnosis will, however, be more easily elucidated by taking a rapid glance at the more usual forms which the affection may assume, and observing the different aspects it may present as it occurs in practice.

In the most simple and easily recognised form we find that the nervous derangements are accompanied by other manifestations of the syphilitic diathesis, by which the attention of the practitioner is likely to be arrested.
Thus, at the very outset of the syphilitic cutaneous manifestations we meet with convulsions, hysterical and neuralgic affections. The eruptive fevers are the only diseases with which one is likely to confound the symptoms of nervous derangement which may occur during this period of the syphilitic infection; and this mistake may be all the more easily committed when we recollect that the eruption of syphilis may very closely simulate variola, varicella, or roseola, while the nervous prodromata of which we are speaking usually diminish or disappear in all of these conditions when the eruption becomes developed. But while this is the case, the syphilitic eruption usually lasts much longer than the exanthem of an eruptive fever, and the general nervous disorders, when they have once existed, recur again shortly after the manifestation of the specific eruption, if they calmed down on its appearance. Besides, new symptoms indicative of the diathesis occur, which prevent or, at all events, enable us to avoid or correct any error which might otherwise be made in diagnosis. That such mistakes do occur is abundantly shown in several cases detailed in the body of the work. In one, for example, the patient was supposed by his medical attendant to have three times suffered from measles, thrice from small-pox, and once from typhoid fever.

At a more advanced period in the progress of the diathesis the different paralytic affections, neuralgia, diseases of the eye, etc., may also occur co-ordinately with other manifestations of syphilis, the presence of which render the diagnosis much more easy than it would otherwise be. In such cases an attentive examination of the antecedents of the patient, the progress or connexion of the different syphilitic phenomena, the relation of date or of intensity of the different nervous disorders, with the other concomitant symptoms of syphilis, are so many guides which lead to the discovery of the true nature of the disease of the nervous system. We should, however, make allowance for coincidences, and not attribute every condition which may present itself to syphilis, merely because the patient is undoubtedly syphilitic, for various diseases quite unconnected with syphilis may become developed coëstaneously with it.

At the same time, if a patient has never previously suffered from an analogous affection, of a neuralgic kind for example, if this condition became developed without the existence of any appreciable cause, if it was one of those affections which recur in the course of syphilis at that period at which the diathesis had arrived, if by the date of its appearance it could be referred to syphilis, if, in fine, it was benefited by the employment of specific remedies which produced a decidedly curative effect upon the other concomitant symptoms of the diathesis, we should then have the requisite proofs to enable us to satisfy the most exigent, and to establish as certain a diagnosis as can possibly be attained to in medicine. Let us take the example of a shepherd suffering from syphilitic epilepsy, detailed by M. Zambaco at page 473. In the first place, none of his family
had ever been affected with any disease of the nervous system. He had always enjoyed good health and never displayed any sign of cerebral disease. In these circumstances he contracted syphilis, for which he was subjected to very irregular and insufficient treatment. Two years afterwards, having already suffered from a condylomatous affection of the fauces and violent pains in the head, he became epileptic. After several attacks, the epileptic symptoms yielded to the employment of specific treatment, while at the same time the affection of the throat disappeared, after which several years elapsed during which he enjoyed good health. But at a more distant date, other constitutional symptoms made their appearance, such as ulceration of the pharynx, affections of the nasal bones, and intense pains in the head, and were speedily followed by a return of the epileptic seizures. Subjected anew, and after two years' persistence of these conditions, to specific treatment, the superficial and observable diseased conditions rapidly improved, while at the same time the epileptic attacks diminished in frequency. Some time after both affections disappeared completely. In such circumstances, though the disease for which the patient came under treatment was called epilepsy, it was incontestible, that its symptoms as well as the others we have described were really due to the influence of the syphilitic infection of his system.

But circumstances are not always so simple and satisfactory. It sometimes so happens that, during the active existence of constitutional syphilis, cerebral symptoms make their appearance, which are ill-defined in their characters, or, assuming the form of apoplectic attacks or cerebral softening, persist after the other external syphilitic symptoms have improved under the employment of specific treatment. For example, a patient suffering from gummata of the skin becomes hemiplegic, the cutaneous tubercles disappear under constitutional treatment, the paralysis continues unaffected; still it was due to syphilis, for at the autopsy a tertiary syphilitic tubercle was found in the corpus striatum of the opposite side. But the plastic deposit was surrounded by cerebral matter inflamed and softened. This acute cerebral softening was the cause of the continued fever, the convulsions, and the muscular contractions, which made their appearance nearly a month and a half after the occurrence of the hemiplegia. Thus a new series of difficulties occur to increase the chance of falling into error in our diagnosis. In such cases, we must therefore bear in mind that the syphilitic tubercles by their situation and by the compression of surrounding parts may set up cerebral softening, which may then become the important and even fatal malady; and it need be no wonder in such cases that the specific treatment fails to cure the head affection, occasioned though it be by the syphilitic diathesis.

The diagnostic problem becomes still more difficult of solution when the patient, suffering from some nervous or cerebral disease, has no manifest symptom of the syphilitic diathesis. In such
circumstances a careful study of the history of the case, especially if it has been all along under our own care, will afford very great assistance. It was in this way that M. Vidal arrived at a satisfactory diagnosis, and cured, by the employment of antisyphilitic remedies, a young patient from an apoplectic attack, and that M. Ricord similarly cured a patient suffering from cerebral disease.

It is obvious that the difficulties in diagnosis must greatly increase, when the syphilitic symptoms are separated from the disease of the nervous system by a long period of time. Such cases require the most careful and attentive research, not only into their history, but for any trace of the pre-existence of syphilitic affections on those parts of the body most accessible to investigation.

It has been noticed by every writer upon syphilis, that in this disease the painful symptoms occur only or become most intense during the night. But some have applied this tendency to nocturnal exacerbation or recurrence not only to the pains in the bones, of which it is very characteristic, but to other conditions as well. Thus, Frank holds that it is a characteristic of syphilitic epilepsy that the seizures come on at night, and some have attempted to maintain that all neuralgic affections which possess a nocturnal periodicity or increase in severity are due to a similar cause. Were this the case, diagnosis would be immensely simplified; unfortunately, however, all such conclusions are found to be quite unsupported by facts.

Among the different nervous diseases some are so frequently found to be due to syphilis, that it is only proper in the practitioner when such a case occurs attentively to explicate the antecedents of the patient so as to determine whether or not the syphilitic diathesis forms an episode in his biography. Among such nervous affections paraplegia, palsy of a single limb, of the muscles of the eyeball, and amaurosis, may be mentioned as common examples.

There are, however, another and rarer class of cases in which the presence of syphilis as a determining cause is too frequently overlooked, and for which the only really efficient remedy is thus unemployed. An example will make our meaning more intelligible. Suppose that we are called to see a young man, not above 28 years of age, suffering from hemiplegia. In such a case, although there is no symptom indicative of syphilis present, the practitioner recognises as a fact the result of experience, that cerebral apoplexy in one so young is an exceedingly rare condition. He therefore inquires into the previous history, and finds that at some antecedent date there is good reason to believe that he had undoubted symptoms of syphilis. This first hint in a right direction, corroborated by probability, supported by additional facts, and elucidated by reflection, leads to certainty in diagnosis. Among the probabilities we may instance, first, the frequent relapses met with in syphilitic cases, its resisting treatment, especially when that treatment has been irregular, whether as regards kind or continuance; the suddenness
of its attacks, occurring as they often do when the patient is apparently enjoying perfect health, etc. In such circumstances the practitioner may very reasonably suspect the existence of syphilis as an exciting cause of the diseased conditions which are present, and reasonably diagnose a syphilitic affection of the brain, more especially if the paralytic symptoms have come on by degrees and progressively, or, as is more common still, if when the paralysis has occurred suddenly there has been no loss of consciousness.

Treatment will still further assist us in determining the question, by rapidly removing the symptoms from which the patient suffers. But as we have already said, in exceptional cases no satisfactory results occur even when the treatment has been both carefully and rationally conducted, allowance must be made for the effects which continuance of the lesion of the nervous system must have produced on the surrounding parts.

From what has been said it may be inferred that a study of the history of any such case, with a thorough acquaintance of the various aspects under which syphilis may show itself, should enable the practitioner in the majority of cases to arrive at a decided and satisfactory diagnosis. We must not, however, forget the difficulties which beset us in tracing such histories. For, in fact, such is sometimes the determined obstinacy of patients to deny the possible occurrence in them of syphilis, that the practitioner requires to be constantly upon his guard lest he should be duped by a too ready dependence upon their statements. This dissimulation is particularly common in the case of females, who ostentatiously deny any syphilitic antecedent, and even persist in their denial when we have undoubted signs of syphilis in various parts of the body, such as condylomata, gummata, nodes, etc. It is only just, however, to add, that patients and more particularly female patients, are frequently quite ignorant of their having become infected, so that when they attempt to deceive the practitioner whom they consult it is usually from ignorance and not from any sinister motive.

Lastly, The comparison of doubtful cases with others which are analogous in all respects, with this exception, that in them the existence of syphilis as a cause has been demonstrated, may frequently afford us valuable assistance in making out our diagnosis. And this fact is all the more necessary to be remembered, for a patient may suffer from all the sad and fatal consequences of syphilis who has never contracted the disease in its primary form; for hereditary syphilis is quite as competent as the acquired form of the disease to produce disordered conditions of the nervous system. In such cases, the true nature of the disease will be all the more easily misconceived when the disease of the nervous system develops itself at a distant date from birth.

From all we have said it is sufficiently obvious that to demonstrate the presence of the syphilitic diathesis as an active cause of disease is sometimes very difficult. It is no doubt true that, in
such cases, practical men sometimes make a happy guess when rigid proof is wanting. But, for the satisfactory diagnosis of syphilitic diseases of the nervous system, or in fact of any syphilitic disease of a recondite kind, it is essential that the practitioner should be thoroughly acquainted with the pathology of this protean disease. In the investigation of every disease it is in fact quite essential for the practitioner to keep in view the possibility of syphilitic infection having some part in its production. In studying the histories of most cases, it is very common to inquire whether the patient has suffered from measles, scarlet fever, small-pox, and typhus or typhoid fevers, etc., etc. A similar careful research, with or without making the patient conscious of it, as to whether syphilis has formed an antecedent in his history would seem to be a reasonable deduction from the considerations and facts elicited in this volume.

The prognosis of the nervous affections which occur as a result of syphilis constitutes a complex problem, which may, however, be separated into the following considerations:

1. Do syphilitic nervous affections always undergo a cure?
2. By what signs can one recognise that they are making progress towards a cure?
3. Do they leave any infirmities as a result?
4. Have they a tendency to recur?

We have already admitted that the affections of the nervous system produced by syphilis are not always curable. Some of them pursue their course to a fatal termination, in spite of the most regular and rational treatment, even when employed from the commencement of the diathesis. Nevertheless, it must be granted, that in most cases syphilis is a disease which is more easily cured than almost any other in the whole nosological catalogue.

Putting aside, in the meantime, these unfortunate and for the most part exceptional results, when we attempt to foresee as far as we can the progress of the affection, it is necessary to take into account the following circumstances. Other things being equal, we may expect the disease will be more intractable in proportion to the length of time it has existed, the frequency with which it has relapsed, and where it is of hereditary origin. It is still further of great importance to take the site of the disease into account in considering the ulterior progress of such syphilitic nervous cases. The affections which involve the nervous system generally, such as convulsive or hysterical attacks, or disturbances of the sensory or motor functions, etc., usually disappear at once under the influence of mercury, and sometimes even spontaneously, without the employment of any treatment. Those affections which are apparently without any organic lesion seem to be more amenable to treatment than those in which we have organic disease interfering with the functions of an organ. Furthermore, the structure of the part affected should be taken into consideration; thus, the retina may undergo, in consequence of a syphilitic affection of old standing, such changes as must in all
time coming prevent the possibility of its regaining its healthy function. The form which the affection assumes may sometimes be of service in assisting our prognosis. Thus, for instance, it will usually be found that those cases of general paralysis which resemble the general paralysis of the insane, die in spite of treatment. In some cases, again, the stage of progress of the symptoms appearing upon the surface may to a certain extent serve to reveal to us the condition of internal organs, and so to indicate the probable tendency of the nervous symptoms. Thus, in a patient suffering from syphilitic chorea, with coincident sore throat, the increasing severity of the latter symptom presaged the serious character of the disease of the nervous centres. Under treatment, both classes of symptoms disappeared; but, shortly after, a fresh affection of the throat, coupled with hysterical attacks, presented itself; while finally gummata of the velum palatii and epileptic seizures occurred together.

When a relapse occurs after a first attack which has yielded readily to treatment we may expect a like satisfactory issue to result from its re-employment.

The affections of the encephalon, but specially those of the spinal cord, are rarely completely cured by the employment of treatment. In the case of the neuroses, properly so called, and more particularly is this true in epilepsy, the symptoms may persist, and the attacks recur, in spite of the syphilitic symptoms having entirely disappeared. At the same time, it is well to recollect as a rule that syphilitic epilepsy is in most cases quite curable.

Speaking in general terms, when an improvement takes place in the symptoms accessory to those of the nervous system, we may anticipate a favourable change in the latter, and the complete disappearance of the external affections is usually indicative of a more or less complete cure of the disease having occurred. Still, the symptoms of syphilis are so liable to relapse, so insidious, too, in their progress, that we should never trust too implicitly to any improvement, however decided and advanced it may be. Case No. 21, in the body of the work, serves to illustrate this point. A syphilitic patient suffered from paralysis of the third pair of cerebral nerves; after five months' continued treatment, every symptom of this affection completely disappeared; but within fifteen days after this apparent cure, when the employment of medicine had been discontinued, cerebral symptoms supervened, and, becoming more serious than before, terminated fatally. At the autopsy, a syphilitic tubercle of the size of a hen's egg was discovered, occupying the situation of the sella turcica. In all such cases, a prudent reserve should be exercised by the practitioner in speaking too confidently of the cure which has been effected, recollecting that this has proved too often only temporary and illusory. In the instance we have just quoted it is obvious that death was not due to a freshly developed affection, but to the persistence of the same morbid con-
dition which, in the few days preceding the fatal result, had probably undergone a fresh development, due without doubt to the discontinuance of the treatment. As a corollary to this it would seem only prudent to continue the employment of the specific treatment of the constitutional disease for a considerable period after the symptoms have disappeared, if we hope to obtain a permanent and complete cure.

We have already indicated that, in some cases the degree of structural change which has taken place in consequence of the progress of the disease, it is impossible to expect the function of the part to become restored, however carefully and persistently treatment may be employed. This fact is well illustrated by the progress of cases of syphilitic affections of the retina and choroid which have been left to themselves for a considerable period. In them, although vision does, under the action of specifics, usually undergo a marked improvement, we more frequently find that the plastic deposits, seen in the fundus by means of the ophthalmoscope, remain permanent; just as in syphilitic iritis, the lymph upon the free margin of the iris continues unaffected by treatment, and produces more or less deformity of the pupillary aperture. The same, too, holds true in regard to syphilitic paraplegia, all experience proving that, when once established, though every other indication of the syphilitic diathesis has been completely removed by the use of specific treatment, the lower extremities never completely regain their functional integrity. It is certainly difficult to account for this persistence of the enfeeblement of the motor power when once it has occurred; the only legitimate theory is to suppose that the compression of the essential elements of the spinal cord by the syphilitic deposit has so modified its intimate structure that the nerve tubes never become thoroughly restored, even when the tumour becomes completely absorbed.

It is very necessary for the practitioner to exercise a prudent reserve in replying to the inquiries which will be certainly made of him as to the degree of confidence which should be put in any apparent cure of syphilitic affections of the nervous system; for Dr Zambaco states that, in every case of syphilitic paraplegia which has come under his notice, a return of the symptoms has occurred at some date.—

"So much so, that if we examine our observations generally, it is rare to find a patient who has suffered but once from manifestations of syphilis; frequently, on the contrary, in spite of the best devised treatment continued for three, four, or five months, after every diathetic symptom has disappeared, it has formed no insuperable barrier to the development of new affections. These relapses may occur within a very indefinite period, varying from months to several years. By examining our observations, we find remissions of five, ten, and even twenty years, without any diminution in either the intensity or violence of the diathesis. Frequently, after such long intervals, during which the diathesis has slumbered, it awakens afresh, revealing itself by manifestations all the more dangerous that their insidious commencement makes them easily overlooked."
We do not propose to consider, under the head of treatment, more of the extensive subject of the therapeutics of syphilis than has a direct bearing upon the nervous diseases which are due to syphilitic contamination. But these affections, occupying as they do the two principal periods in the history of the syphilitic diathesis, now accompanying the secondary, now the tertiary period, may be said to afford examples of the treatment of this protean disease under circumstances which enable us to appreciate the benefits of treatment far better than in those other manifestations of the disease which, if more apparent, are less liable to be followed by untoward results.

Mercurial remedies, then, first call for inquiry, possessing all the reputation which long use, popular confidence, and violent detraction, can impart to any therapeutic agent. Mercury, it is well known, has been, and is at the present day, accused of being the occasion of all the affections of the tertiary period, nay, by some of producing these very diseases of the nervous system which we have considered. Such an impression, after being abandoned for a very considerable period, has been again broached, not only in the German schools, but even nearer home. How far such views are justified by facts can be best estimated by considering, first, what is the natural history of syphilis when left to itself, without the employment of any constitutional remedies? Such cases have fallen under the observation of most surgeons; Fergusson, for example, has seen gummata, nodes, and other tertiary affections occur in individuals who have been treated, from first to last, without the administration of a single grain of mercury. The results of Porter's observations confirm these remarks. Having treated cases of sores upon the genitals without the administration of any mercurial, he found that, in a fourth of his patients, constitutional symptoms of syphilis occurred, which is a proportion somewhat larger than is usually accredited to the general mass of cases of chancre, taken indiscriminately. The conclusion, therefore, to which we must inevitably come appears to be, that syphilis without the employment of mercury is quite competent to produce all the symptoms of "confirmed pox."

The second question which we must eliminate in the discussion of this subject regards the effects of mercurials upon the system, when syphilis creates no confusion in estimating results. In cases of chronic poisoning by mercurial vapour or emanations, as occurs in various trades, we meet certainly with trembling limbs, salivation, eczematous eruptions, etc., which, however, have no analogy whatever with syphilis. But it is in its effects upon the osseous system that it has been supposed that mercury is most nearly allied to syphilis. On this subject Virchow has collected in his work upon syphilis all the facts which are supposed to favour this view. He points to the observations of Lorinser, who speaks of having seen extensive necrosis occur in the workmen in quicksilver mines.
Vénot speaks of fracture of the bones, especially the ribs, and more particularly when occasioned by slight causes, as characteristic of syphilis; and, according to Jungken, this, too, is common among the workmen in the mines of Almaden. He also reports the case of a shepherd employed in rubbing a solution of corrosive sublimate into some sheep affected with scab, who was attacked with profuse salivation and necrosis of the tibia. He also speaks of having seen a case of extensive necrosis of the lower jaw supervene upon the use of the acid nitrate of mercury as a caustic in uterine disease. He further attributes the production of rheumatism in exhausted subjects to the employment of mercurials. Daily experience, we think, serves sufficiently to enable us to appreciate the true value of such assertions. We frequently enough meet with patients who work with quicksilver attacked with trembling limbs, paralysis, and all the phenomena of a cachectic state of body; but they have none of the symptoms of syphilis; they do not suffer from nodes, or gummata, or any of the specific alterations of parts or organs so characteristic of syphilis; in fact, none of their symptoms could possibly be confounded with syphilis by any one sufficiently acquainted with the characters of the disease to make his opinion of any value.

In the third place we have to consider, What are the effects in syphilitic patients when mercurials have been too actively employed? If, in former times, when the use of mercury was carried the length of abuse, necrosis of the lower jaw sometimes occurred, this complication was due to the mercury, not to the syphilis; to the effect of the mercurial, in loosening the teeth from the gum, producing irritation in their sockets, and communication of the mischief to the periosteum.

We have already said that the deleterious effects of syphilis upon the nervous system has been attributed to the administration of mercury. This is an old bugbear, as old as Van Sweeten at all events, who narrates a case where he says he found mercury in the metallic state in the ventricles of the brain; but M. Reynaud more recently brought up the question in the Academy of Medicine, by the narration of the case of a syphilitic patient, who died with symptoms of cerebral ramollissement, after undergoing a course of anti-syphilitic treatment, in whom he discovered mercury in the substance of the brain, and concluded that his death was due to the use of the mercury. Cruveilhier made some interesting observations upon this subject. After employing daily mercurial frictions upon the surface of the abdomen and inner aspect of the thighs in several dogs, he secured them in a leather breeching so as to prevent them from licking themselves, and found that they all died within a week of mercurial poisoning; in fact, they were so saturated with the poison that they passed it in their stools; still, in spite of the most careful and minute analysis, M. Guérard was unable to find the slightest trace of this metal in their tissues.
It is scarcely possible to imagine anything more conclusive than these experimental researches. Still it is worthy of remark, that if it be the case that Otto (Pathologische Anat., vol. i. p. 150) has found mercury in the bones, and if Coulson has discovered it in the blood of patients when taking mercury, and M. Grassi in the left anterior lobe of the brain, these results have not been confirmed by later investigations. M. Personne, who, by analysis, has detected mercury in the milk of nurses when taking this remedy, has always failed to detect it in the brain substance of patients who have died after mercurial treatment which has even been continued for several months. Besides, even if mercury were always detected under such circumstances in the brain of individuals to whom this remedy has been administered, before giving it the blame of causing the nervous symptoms, it would be necessary to prove, by comparative analysis, that more mercury was contained in the brain than in an equal weight of liver or any other organ.

In regard to nervous diseases the question we are considering is not immaterial, for mercurials may, in certain circumstances, produce tremblings, paralysis, and other affections of a like kind, which may be confounded with the effects of the syphilitic infection. Dr Lagnau, for instance, while he admits that convulsive attacks may result from the abuse of mercurial remedies, believes that epileptic attacks cannot be occasioned by such an agency. Vidal (de Cassis), on the contrary, has recorded an instance of this in his work.

1 The following interesting results are extracted from a paper of Waller of Prague in the Prager Vierteljahrsch., vol. lxiii., p. 134: 1859. The inquiry was to determine the accuracy of the statements of the Viennese anti-mercurialists, with reference to the accumulation of mercury within the system, and the power of iodide of potassium to effect its elimination. "For this purpose he analyzed with care the urine of eight syphilitic patients who had taken mercury, and found, 1st, That the mercury demonstrable in the urine of patients taking this remedy is excreted spontaneously by the urinary organs without the assistance of iodide of potassium; 2d, That this spontaneous excretion is observed in whatever way the medicine is given; 3d, That without accurately determining the quantity necessary to produce this elimination, it is evident that small doses are quite sufficient; 4th, That this spontaneous elimination of mercurials commences some time after the commencement of the treatment, and goes on gradually diminishing in quantity for an undetermined period till no more can be discovered." Mercury thus absorbed into the system behaves itself like other substances of a like kind, being by degrees eliminated by the urine, and in every instance independently of the influence of iodide of potassium. M. Schneider in the Journal de Pharmacie et de Chemie (November 1860), shows that so long as mercury is administered it appears in the urine, and that this continues for rarely so long a time as six weeks after its administration has ceased: that this eliminative process is not due to the administration of the iodide of potassium; nay, that the employment of this salt rather tends to check the elimination of the mercurial. He also mentions the case of a patient who had suffered from syphilitic affections for five years, and during this period was three times energetically treated with mercury, and died only two months after the last course of treatment, in whose body not a trace of mercury could be found except in the kidney, when the quantity was infinitesimal, and in the liver, where its presence was doubtful.—See Archives Général de Médecine, vol. ii., p. 466: 1861.
The patient, who was suffering from psoriasis, had employed mercurial baths for twenty-two days consecutively, when a convulsive seizure occurred, characterized by foaming at the mouth and loss of consciousness. On coming to himself the patient was affected with a tremulous state of the limbs, which continued for a long time, and presented exacerbations and remissions. One certainly might naturally enough be inclined to blame the mercury, but as this patient was under the influence of the syphilitic diathesis, for the cutaneous manifestations of which he was employing the mercurial baths, the nervous affections may more reasonably be attributed to the syphilis than to the mercury.

It seems void of practical benefit to prolong this discussion. Clinical facts obviously are all against the anti-mercurialists, and no one who has carefully studied the syphilitic diathesis will not assent to Virchow's assertion that it is almost impossible in such cases to distinguish the effects of the mercurial remedies from those of the syphilitic infection. Since the success obtained by Torella and Berenger de Carpi, mercury has reigned supreme in the therapeutics of syphilis, since that period, too, it has constantly had its detractors. No less than 300 years have been spent in this vain controversy; it is about time to end it! Every therapeutic agent of any activity has been blamed for producing diseased conditions precisely similar to those for the treatment of which it is employed. Has not sulphate of quinine been supposed by some to produce cerebral mischief in rheumatic patients; but that is no reason for renouncing its employment. The same may be said for mercury; it merits none of the blame which has been heaped upon it. It is the abuse and not the appropriate use of mercurials which deserves censure, and for long its employment has by most of those conversant with the treatment of syphilis been restricted within proper limits.

But it is not in the secondary stage of syphilis only that nervous symptoms occur, they also appear during the tertiary period. Here it is that the use of iodide of potassium is indicated. This useful agent has also shared the fate of mercury: reprobated by some, approved by others. When it was brought into repute from comparative obscurity by Wallace, who first pointed out its therapeutic efficacy, it was by some supposed to excite the very maladies it was employed to cure. No doubt in some idiosyncrasies it may produce cerebral symptoms, influencing the sensibility, motion, and even the intellectual faculties, or sometimes inducing stupor, as has been pointed out by M. Baumes; but in the vast majority of cases the symptoms indicating a lesion of the nervous system and occurring in the course of the syphilitic infection make their appearance before a single grain of this remedy has been administered.

Having thus justified the employment of these two principal remedial agencies in the treatment of syphilis, we would briefly describe the mode of their application.
In the first place, then, while, as a rule, mercury is specially suited to the treatment of those nervous lesions which occur in the secondary period of the syphilitic infection, and iodide of potassium to those which appear in the tertiary period of its evolution, it should not be forgotten that these two stages insensibly blend one into the other, and that to this intermediate stage a mixed treatment consisting of both mercury and iodine is found to be best suited.

Before the anti-syphilitic properties of iodide of potassium were properly understood, mercury was employed to treat the diathesis in every period of its evolution. Even at the present day some practitioners employ it indiscriminately at every period and for every symptom, while others only resort to the use of iodide of potassium when mercury fails to afford relief. Vidal, for instance, says that mercurials may be employed with success in the treatment of every form of venereal disease, still he recommends iodide of potassium to be given in the tertiary stage, as the whole of his work testifies. As a rule it may be stated that mercury is to syphilis what cinchona is to the paludal poison. Thus it is, that even in the tertiary stage of syphilis, where the iodide of potassium seems either inert or inefficacious, the addition of mercury to that remedy, or even the employment of mercury alone, is attended by the most satisfactory results.

In the early stage of the diathesis, when neuralgic affections are the form of nervous derangement most commonly met with, they yield rapidly to the administration of mercurials. In such circumstances, the proto-iodide of mercury in small doses seems particularly successful. When, after some degree of improvement has taken place, we find that, push the remedy as we may, the condition remains obstinately unaffected, further good effects follow upon a change in the preparation of the mercurial which is administered; thus, the bichloride may be successfully substituted for the proto-iodide; and M. Rayer finds the pills of Sédillot (mercurial ointment and soap) afford very satisfactory results in cerebral syphilitic affections. In administering mercury it is generally advisable to produce a slight degree of the physiological effects of the remedy, but not more than merely to touch the gums, so as to enable us to know what is the dose requisite to produce the full effect of the drug—a dose which, it must be remembered, varies in each individual instance. Having attained to this degree of effect, further buccal irritation is not desirable, and, should it occur, must be checked by the use of chlorate of potash, purgatives, and astringent applications to the mouth. In such circumstances, of course, the use of the mercury must be stopped until the mouth is better.

Sometimes we meet with cases of extreme obstinacy, which refuse to yield to the internal administration of the mercury. In such cases, inunction with mercurial ointment may be satisfactorily resorted to. In using this method, care should be taken to prevent...
local cutaneous irritation, resulting from the continued application of the ointment; this may be satisfactorily secured by shifting the locality to which the ointment is applied, and by washing the surface from time to time with soap and water.

When the mercurial administered by the mouth upsets the stomach and bowels, the addition of a small quantity of opium or morphia with each dose removes this disagreeable effect. Where, however, it cannot be borne, then inunction or the mercurial vapour-bath are the only means by which the remedy can be satisfactorily or safely introduced into the economy.

When mercury is employed with these precautions, the symptoms of syphilis may be said constantly to yield to its employment. At the same time, care must be taken and attention paid to details and individual peculiarities, in order to obtain satisfactory results, for no wholesale system of anti-syphilitic treatment can be expected to succeed.

In the secondary stage of syphilis, Wallace was the first to recommend the use of iodide of potassium. Unfortunately, however, with him this remedy was a universal venereal panacea. It remained, however, for Ricord, after an extended trial of this remedy, to show that its effects were only satisfactory in cases where the syphilitic diathesis had attained the tertiary stage. In such circumstances, under its employment, rapidly beneficial results follow; but allowance must always be made for the nature and structure of the part affected, else we may be disappointed in our expectations; as, for instance, in tertiary affections of the choroid and retina, of the brain or spinal cord, when such a degree of structural change has taken place that, however completely the syphilitic tubercular deposit may be removed, the function of the part cannot be restored. In the administration of the iodide of potassium a great diversity of opinion exists as to the dose; some would never give more than six grains in the course of the day, while others would give as much as half an ounce. Some patients bear these larger doses well, without derangement of stomach or bowels; others cannot take the smallest dose for any protracted period without suffering from symptoms of iodism. The remedy should therefore be employed carefully, beginning with a small dose, gradually increasing it, so as to test the individual susceptibility as evinced by the occurrence of physiological effects, or by the dose required to produce the greatest and most rapid improvement.

There are undoubtedly cases in which the iodide does not act satisfactorily but where its association with mercury renders its effects well marked. Thus, in cases of syphilis of old standing and great obstinacy, some, among whom we may mention Ricord, employ both these remedies at the same time. For this purpose, the mercury may be administered by the skin, by inunction or vapour-bath, and the iodine by the mouth; or both may be given in the form of a deuto-ioduret of the iodide of mercury, formed by com-
binning in solution corrosive sublimate and a large preponderance of the iodide of potassium. M. Trousseau, again, recommends a different plan; he brings the patient gently under the influence of mercury, by giving calomel, after which he commences the employment of the iodide of potassium.

In most cases, two, three, or four months of such treatment removes all the symptoms of syphilis, both as affecting the nervous system and the frame generally; but it by no means follows that this has effected the complete extinction of the diathesis, so that the patient is free from all risk of any relapse. Experience proves that after the elapse of months, or even of years, a fresh explosion of the constitutional taint may occur. Nay, this may be observed in spite of the continued use of prophylactic remedies for months after every appreciable symptom had disappeared.

Without at all wishing to detract from the value of the remedies we have been discussing, it is well to recollect that syphilis left to itself often follows an intermittent course,—now appearing, and again disappearing, without the employment of any treatment; while, again, it is undoubted that, sometimes in spite of the most judicious treatment, a temporary alleviation is only produced, the disease running on from bad to worse till it results in a fatal issue.

It would certainly be difficult to account for this persistence of the disease were we to assume the popular idea of its being a poison which exists in the blood, but the view which has been developed in the German school, of its being a disease which has a local residence in the lymphatic system and blood-forming glands generally, could alone satisfactorily account for the intermittent manifestations of the disease, and the occurrence of anaemia at its commence ment and at its close, while such a pathology would serve to establish an analogy between it and other constitutional affections. Besides the anti-syphilitic treatment, there is usually an urgent necessity for the employment of tonics, so as to do away as far as possible with the effects upon the system of the prolonged employment of mercury and iodide of potassium. For this purpose, iron and quinine will be found very essential accompaniments of these anti-syphilitic remedies.

Independent altogether of these measures calculated to affect the disease through the medium of the system, various therapeutic agencies may be requisite as adjuvants in treatment. Thus, in syphilitic neuralgia, the endermic application of morphia, or some local opiate application, may be required; in hysteria, occurring in the early stage of syphilis, although from anti-spasmodics, when used alone, little advantage will be gained, along with mercurials they prove of signal service; in paralytic affections, blisters, the use of the actual cautery over the spine, and galvanism applied to the palsied muscles, assist very materially in restoring movement to the paralyzed limbs; in cerebral affections, again, blisters to the nucha, dressed with mercurial ointment, purgatives, and, in exceptional cases, the
application of leeches, may be needed; besides, warm bathing, vapour-baths, etc., by acting on the skin, tend materially to relieve internal symptoms. Cold bathing, the douche-bath, and various of the devices of the hydropathic practitioner may help to give tone to the whole frame, but more particularly to the stomach and bowels when they have become debilitated. In most cases, there is no need, on account of the cold bathing, to stop the use of the mercurials.

When the extreme effects of syphilis have occurred, when, in fact, the syphilitic cachexia is developed, we can hardly expect to have much success crowning our best efforts to obtain a cure. In such circumstances, both mercury and iodide of potassium would be badly borne. Tonic treatment, good food, cod-liver oil, and suitable hygiene, are the only means which can be expected to prolong the lives of such miserable victims marked out for a death which cannot be long delayed.

P. H. W.

Researches on the Nature and Treatment of Diabetes. By F. W. Pavy, M.D., Assistant Physician to, and Lecturer on Physiology at, Guy’s Hospital. London: Churchill: 1862.

Until the discovery by Bernard as to the glycogenic function of the liver, great obscurity involved the pathology of diabetes. Dr Mead believed that it depended upon a morbid state of the liver and bile; Cullen ascribed it to a fault in the assimilatory powers; Dr Darwin had a fanciful theory that it was due to a retrograde motion of the absorbent vessels from the lacteals into the lymphatics of the kidneys or bladder. Latterly, however, Dr Prout’s views were very generally entertained. That excellent chemist and physician believed that the cause of diabetes was a suspension or destruction of the function by which the saccharine principle formed in the stomach from alimentary matters is, in the normal condition, converted into oleaginous, albuminous, and possibly other matters. The real cause of the disease was, however, still left in obscurity. The publication of Claude Bernard’s researches threw an immediate light upon much that had previously been obscure. The discovery that the formation of sugar was a normal function of the liver, at once pointed to that organ as, in all probability, chiefly involved in the diseased process; while the fact of this function being under the direction of the nervous system showed that the disease had not necessarily its starting point in the hepatic tissue. Though this was a great step, it became evident that the pathology of the disease was exceedingly complicated. It might depend either upon an increased formation or a diminished destruction of sugar. In the

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1 See Craigie’s Practice of Physic, vol. ii. p. 1157.
2 On Stomach and Renal Diseases, fifth edition, p. 15.
latter case, owing to a morbid condition of the lungs, or some other cause, a portion of the saccharine materials, which should have been destroyed almost as soon as formed, escaped decomposition, accumulated in the blood, and was eliminated by various abnormal channels, in particular by the urine. In the former, the cause of the disease might be looked for in an abnormal condition of the central organs of the nervous system, in an increased irritation of the pulmonary branches of the pneumogastric nerve, in a functional or organic change in the hepatic tissue, or in an unnaturally stimulating property of the blood of the portal system. It therefore was, and still is, in any given case, a very difficult problem to determine on what particular morbid condition diabetes depends.

These remarks take for granted the correctness of Bernard's views as to the formation of sugar, founded on his well-known experimental researches. These researches professed to prove that sugar is not, under ordinary circumstances, to be found in the systemic circulation; that the blood of the portal vein does not naturally contain it; that it is to be detected in large quantity in the blood which leaves the liver by the hepatic vein; that it is present in the blood in the right side of the heart; that it disappears in the lungs, and is no longer to be discovered in the blood contained in the pulmonary veins. Dr Pavy, as we shall see presently, denies (upon experimental grounds) the accuracy of some of these statements.

Dr Pavy, as he informs us in his preface, has devoted special attention to the subject of diabetes for a number of years past. Having worked at the subject under Bernard, in Paris, he entered upon a series of investigations, with a view to determining the nature of the process by which sugar is destroyed in the lungs. In the course of these he was led to believe that the data from which he had started were erroneous, and that sugar was not, in the normal condition, formed in the liver in the way supposed by Bernard. Some of Dr Pavy's observations have already been published in the Philosophical Transactions, and in Guy's Hospital Reports; in the present volume the conclusions he has come to are arranged in a systematic form, with a special bearing upon the pathology and treatment of diabetes.

The first chapter treats of the mode of detecting sugar in the urine and elsewhere. For this purpose, both in qualitative and quantitative researches, Dr Pavy prefers the copper test, using a solution prepared according to the following formula:—Sulphate of copper, 320 grains; neutral tartrate of potash, 640 grains; potassa fusa, 1280 grains; distilled water, 20 fluid ounces. The tartrate of potash and caustic potash are to be dissolved in one portion of the water, and the sulphate of copper in another; the two solutions are then to be mixed. The liquid to be tested is mixed with a little of this solution, and boiled for a short time, when, if any grape-sugar be present, the protoxide of copper loses half of its oxygen.
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and is thrown down as a yellow, orange-yellow, or orange-red precipitate. The test is also conveniently employed quantitatively, for the strength is such, that half a grain of grape-sugar exactly reduces the oxide contained in 100 minims of the solution. Dr Pavy much prefers this process to the fermentation test, which he has found neither so delicate nor so accurate as the cupro-potassic solution.

The next chapter is a very interesting one, and is entitled "The Physiological Relations of Sugar." In it Dr Pavy details his experiments, and states his conclusions regarding the formation of sugar in the animal body. We cannot enter fully into the subject, which occupies upwards of seventy pages in the original, but can merely give a brief abstract of the views propounded. With a single exception, Dr Pavy admits the accuracy of Bernard's experiments. The experiment, the accuracy of which he contests, is, however, an all-important one. Bernard, as already stated, maintains that the blood in the right side of the heart contains sugar, and established this both by examination of the blood of an animal recently killed, and by testing the blood removed from the right side of the living heart. Dr Pavy, again, denies that in the living animal sugar exists in the blood of the right side of the heart in a larger proportion than is to be found in the blood of the arterial and general venous system, and maintains that the presence of sugar in the liver, and in the blood of the hepatic vein, is a post-mortem phenomenon. He believes that, in health, little or no sugar is to be found in the liver, but that there exists in the hepatic cells a substance to which the term amyloid matter has been applied; that this substance, after death, and in certain unnatural circumstances, is readily converted into sugar, and that this speedy conversion after death has led to the erroneous conclusion that sugar was present during life. The following is, in Dr Pavy's words, a short outline of his views regarding the so-called glyco-genic theory:—

"Evidence has been given that the so-called glycogenic matter is formed in the liver from sugar as one of its sources. Hence, if sugar were its natural destination, the process would be sugar into glycogene, and glycogene back again into sugar—a repetition that certainly appears, to say the least of it, extraordinary and improbable, as a designed occurrence of nature.

"The blood, under normal circumstances, only contains more or less evident traces of sugar; and that belonging to different parts of the system does not present, as far as I can discover, after adopting the necessary precautions in the examination, any appreciable variation in constitution. In some most carefully conducted examinations, I was unable to distinguish, by any difference in behaviour, the blood of the portal vein from that of the right side of the heart.

"The liver itself is found free from sugar, or, at the most, is only
impregnated with it, to the minutest extent, when treated so as to come down upon it in a condition the nearest possible to that of life."

Again—"Whatever sugar may be present in the blood of the right side of the heart will, as far as can be shown by analysis, be found to the same extent after this blood has traversed the lungs and reached the arterial system. Hence, if the liver possessed a sugar-forming function in accordance with the glycogenic theory, the urine of us all would always present a strongly saccharine character. There not being the destruction of sugar going on in the lungs that was formerly supposed, it is apparent, that whatever sugar, no matter from what source, reaches the general circulation, must be distributed through the system with the arterial blood. Sugar would thus be circulating through the kidney; and, on account of its diffusibility, could not fail to escape and occasion a more or less saccharine state of the urine according to the existing saccharine quality of the blood."

It will now become apparent why such fundamental importance attaches to an accurate knowledge of the condition of the blood on the right side of the heart. If the result of Bernard's experiment be incorrect, his conclusions must, to a great extent, be set aside; if Dr Pavy's facts be erroneous, his theory at once falls to the ground. Between the two we shall not attempt to decide; it is purely a matter for experimental inquiry. While Bernard's precision and accuracy are well known, and while his results have been confirmed by others, Dr Pavy's careful and frequently repeated experiments are not to be lightly set aside, and we must wait till they have been either decidedly confirmed or refuted before expressing an opinion on the subject.

In the third chapter the pathology and treatment of diabetes are considered. Having discarded the glycogenic theory as to the physiological formation of sugar, Dr Pavy naturally declines to accept its pathological deductions, and expresses views not very different from those of the late Dr Prout. Like Dr Prout, Dr Pavy demurs to Liebig's view that sugar is capable of direct oxidation in the economy, or that, as sugar, it is capable of contributing directly to the maintenance of the animal heat. Dr Pavy believes that, in health, the sequence of events connected with the occurrence of sugar in the animal economy is the following:—Sugar, ingested as such, or derived from the metamorphosis of starch, enters the blood through the portal vessels by the physical principle of diffusion; hence it is carried to the liver, by the cells of which it is extracted from the blood, and converted into amyloid matter. If, however, too much sugar has found its way into the portal blood, the conversion is not complete, some sugar passes through the liver, enters the systemic circulation, and is discharged by the urine. All the amyloid substance, however, is not derived from saccharine matter, and it is probable that it is also produced by the metamorphosis of other kinds of food, as well as from some
of the products resulting from the wear and tear of the tissues. The amyloid substance so obtained is not reconverted into sugar, but, in Dr Pavy's opinion, is changed into fat. In diabetes Dr Pavy believes that the liver is the organ at fault, yet the mode in which the morbid condition is established is still undetermined.

"Although there appear to be good grounds for believing that it is upon a defective action of the liver that the phenomena of diabetes depend, yet, when we come to speak of the circumstances determining this defective action we arrive at a point that, it must be admitted, still remains without a clue to its solution. If, however, experimental research has not yet disclosed the nature of the pathology of diabetes, I believe it has paved the way to a position from which the disease is more likely to be investigated with success. It is fair to infer that, as long as our notions upon the physiology of this subject were based on erroneous conclusions, no real advance was likely to be made in its pathology unless by some improbable fortuitous discovery.

"As to the cause of diabetes, I take it that in different cases different causes may be concerned in the production of the disease; just as we learn, from experiment, that there are various ways by which saccharine urine may be artificially occasioned."

There is one other point regarding the pathology of diabetes to which we must refer, and to which Dr Pavy alludes in the following words:—

"The most frequent mode of unfavourable termination of diabetes is by disease of the pulmonary organs. This disease of the lungs is commonly spoken of as phthisis; but, although it runs the same course, and presents the same symptoms as phthisis, yet, it seems in reality to consist of a simple chronic inflammation; leading to the breaking down of the lung tissue, and the formation of cavities; and produced by the state of the blood, and not by any true or strumous tubercular deposit. I have witnessed the examination of several cases of diabetes where death has resulted from lung disease, and there has been no sign of the existence of tubercle. Dr Wilks's experience is also to the effect that it is not the true tubercular deposit that is met with in the lungs of diabetics who have died from pulmonary disease. There is a deposit around the cavities which is often spoken of as tubercle, but which consists in reality of a simple inflammatory production."

We do not altogether agree with these statements. The deposit in the lungs in the cases alluded to presents all the physical and microscopic characters of tubercle; it runs the same course; and a very important point is, that the occurrence of tubercular ulceration in the intestines in these cases is just as frequent as in unequivocal cases of tubercular phthisis. In fact, the great frequency of disease of the lungs in cases of diabetes indicates more than a casual connexion between the two conditions, and seems to us to be rather in favour of the views of Bernard.
In the treatment of diabetes attention is, above all, to be directed to the diet. The great object is, to withdraw from the food the saccharine and farinaceous elements. The great difficulty consists in persuading patients to give up the use of bread, and of articles, such as vegetables, which, by filling the stomach, satisfy the craving appetite more completely than animal food. Gluten bread has been largely employed for this purpose of late years, but is not without disadvantages. It is very distasteful to some patients, and, from Dr Pavy’s examinations, does not appear to be free from a considerable quantity of starch. Dr Pavy has been led to recommend the use of the sweet almond as a substitute for bread. It has no disagreeable taste, contains no starch, is nutritious and emollient, and, when thoroughly ground, is by no means indigestible. Its oily character is likewise a desirable quality as supplying respiratory food to the diabetic. The mode of preparation, and the result arrived at, are thus described:—

“Finding that, with eggs, a solid form of biscuit could be procured, I sought the assistance of Mr W. Hill, of 60 and 61 Bishopsgate Street, E.C., London, an expert confectioner. To Mr Hill, jun., my thanks are due for having entered so fully as he has done into the spirit of the undertaking. Several difficulties had to be overcome. And, many trials of different plans were effected, the object held in view being to produce a material as closely resembling our ordinary wheaten food as possible. The only substances taken for use are, blanched almond powder, which has been washed, and eggs; so that the product is free from any objectionable principle.

“It is not for me to speak in praise of this almond food myself; but, thus much I may say, that Mr Hill has succeeded in producing a rusk and different forms of biscuit, which give me good cause to hope that the diabetic may find in this application of the almond a not unimportant nor unpalatable accession to the limited list of articles he is permitted to consume, without producing an aggravation of his complaint. And, there is this in the almond food, that the patient is supplied in his substitute for bread, with that which he can appropriate, and which his system is exactly in need of. It must not, of course, be expected that an article equally as relishable as bread can be produced. Growing up, as we do, from almost our earliest period of life, upon wheaten food, it is not likely that its place, certainly at first or until a second habit has been engendered, can be supplied with anything that will prove so agreeable for a continuance.”

We have tried the almond-biscuit in one case, but not, we confess, with a very satisfactory result. The case, however, was an exceedingly obstinate one, and proved quite unamenable to any form of treatment. The biscuit itself is by no means unpalatable, and, in this instance, was relished by the patient.

Dr Pavy has little confidence in any of the remedial agents
which have been recommended for the cure of diabetes; though, by a careful attention to the state of the general system, much may be done to relieve the symptoms, and to maintain the patient in a very tolerable degree of strength and comfort.

In conclusion, we can recommend Dr Pavy’s work as a careful and conscientious performance; and, should its author’s statements be confirmed, will prove an important contribution to our physiological and pathological knowledge. In any case, it is highly creditable to him, as containing the result of much labour, and minute observation, on an intricate and important subject.

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A Practical Guide to the Study of Diseases of the Eye. By Henry W. Williams, M.D. Boston, U.S.: Ticknor and Fields: 1862.

In literature and in life, in our estimate of books or men, we are, virtually, if not confessedly, led to ask two questions regarding the author or the hero; first, at what eminence of erudition or success did he aim, by what standard of excellence does he wish critics or posterity to judge him; and, secondly, how far has he in his work or his life attained to the eminence or approached the standard.

In the present work, the author, as he tells us in his preface, does not assume to set forth all that is known in respect to diseases of the eye. His aim has been to afford to students and junior practitioners, who may not have had special opportunities for such studies, a practical introduction to diseases of the eye and their treatment, in a form as simple and concise as possible. Judged by his own modest standard, Dr Williams has performed his task well.

The arrangement of the work is simple, the descriptions short, clear, and practical, the treatment sagacious, and, as a rule, guided by ordinary surgical principles, without the fault (too common, especially in the older works) of describing and treating diseases of the eye as if their surgical pathology were a strangely special branch.

After a brief introduction on the method of examination, and the character of the symptoms most important in diagnosis, there follows a short, very short, chapter on the ophthalmoscope and its use. Indeed, throughout the whole work, we might have wished that more reference had been made to the information given us by the ophthalmoscope, as an adjuvant to diagnosis in many of the diseases of the deeper textures.

In the chapter on Remedies and their application, our author expresses his opinion most strongly against two of the most time-honoured and favourite articles in the oculist’s pharmacopoeia. With considerable justice, he insists that solutions of the acetate of lead should be banished from the list of ophthalmic remedies, as other
mineral astringents exist at least equal to it in value, and which do not, as it does, tend to decompose and deposit on corneal ulcers, and thus form indelible corneal opacities.

With rather less reason, however, he makes nearly as fierce an onslaught on the good old nitrate of silver, which he thinks can be in great measure superseded by the use of crayons of sulphate of copper applied very gently to the inflamed eye. It is true, doubtless, that the nitrate of silver used for too long a time may give rise to disagreeable staining of the conjunctiva, and therefore it should not be given to patients to use at their own discretion without proper warning; still, under proper superintendence it proves a remedy for which, both as regards convenience and safety, it will be hard to find a substitute.

The account of the pathology of keratitis is meagre and partly incorrect; the interstitial cloudiness and thickening between the corneal laminae being described as owing to deposits of lymph, instead of an increase in the quantity and cloudiness of the contents of the spindle-shaped anastomosing cells which constitute the corneal structure, as has lately been proved by the researches of Virchow and Von Graefe.

At page 120, in an otherwise excellent short comparison of the relative advantages of complete or partial excision of the eyeball in extensive staphyloma, one important element has been omitted,—the condition of the other eye. Should much sympathetic irritation exist in the sound eye, remove the whole diseased eyeball, and the wound will heal sooner, and the other eye have a better chance; but if the other eye is not much irritated, remove only the anterior half of the diseased eyeball, as a better stump for the subsequent adjustment of an artificial eye will be left, though healing of the wound will be less rapid.

The most important practical innovation in this work, and the one which certainly will excite most criticism, is our author’s treatment of iritis without mercury!

Unfortunately, no exact statistics are given, but Dr Williams, as the result of lengthened and copious experience, tells us that he is confident that cases properly treated get on quite as well, if not better, without mercury than with it; that in cases where lymph has been effused, blocking up the pupil, he has frequently seen this obliteration continue, notwithstanding the lavish, and what in the language of mercurialists would be called the judicious use of mercury; and, again, that in as many cases he has seen absorption of the lymph result under the administration of tonics only. The chief points to be attended to in the “proper treatment” which is to enable us to dispense with mercury are, the free use of atropia to dilate the pupil, and of opium to control the pain. We are not told what is to be done in cases where the thickening and adhesive changes in the iris have gone so far before we see the patient as to render the atropia powerless for good or harm.
This treatment of iritis without mercury by Dr Williams has long been known in Europe: the results are very striking, and if verified by similar results in the practice of others, will go far to upset one of the oldest therapeutical dogmata, and to wrest another stronghold from the now rapidly lessening domain of mercurials. We must not forget, however, that some of our transatlantic brethren who have witnessed Dr Williams’ treatment have not been so satisfied with his results, but state that the average duration of the cases was longer, and the result less perfect under the new than under the old system. Even Dr Williams allows that in cases of well-marked syphilitic iritis, complicated with interstitial corneitis, the use of mercurials, especially of the iodide of mercury, is admissible, if not almost absolutely necessary.

In his account of the operation for artificial pupil, Dr Williams recommends in some cases the separation or laceration of the iris from its ciliary attachment (corodialysis of Mackenzie), an operation which most British ophthalmologists regard as “so clumsy, unscientific, and ineffectual” as to deserve “speedily to be consigned to the limbo of obsolete surgery.”

Again, when describing the various operations for cataract, we are surprised to find our author recommending the utterly barbarous and unscientific operation of reclination.

He does qualify this recommendation by saying that it is admissible only in cases where the patient is unable to leave his home, and is obliged to put himself under the care of surgeons of small experience and unpractised hands. Should we grant, only for the sake of argument, that such practitioners exist on either side of the Atlantic, we must say that (putting ourselves in the patient’s place) we should be inclined to doubt whether any operative interference with such a delicate organ as the eye would be safe, and would rather endeavour, by strict economy or petty larceny, to obtain dollars enough either to carry us to Boston, or bring Dr Williams to our home.

On the whole, this work will well repay perusal. It contains very many hints as to treatment which no one but an experienced and sagacious surgeon could give, and is written in an easy style, with very few idiomatic peculiarities.

The paper and printing of the work are first-rate, being far above the average products of the American medical press.

Pathological and Practical Observations on Diseases of the Abdomen, comprising those of the Stomach, and other parts of the Alimentary Canal, Esophagus, Cecum, Intestines, and Peritoneum. By S. O. Habershon, M.D., Senior Assistant-Physician to Guy’s Hospital, etc., etc. Second Edition. London: Churchill: 1862.

This is an improved and enlarged edition of Dr Habershon’s work on the diseases of the alimentary canal; the fact of its having
already gone through a first edition is proof that such a work was wanting, and that the author’s endeavours to supply it have been appreciated.

Beginning with the œsophagus, Dr Habershon considers in succession the different parts of the alimentary canal; the various morbid conditions of each is treated of, and a very large number (235) of illustrative cases is introduced. These cases, in fact, form the basis of the work, and though individually a great proportion are of much interest, and the groups into which many of these are classified are perfectly natural, the mode in which they have been brought together detracts considerably from their value as clinical illustrations of abdominal disease. Many of the cases detailed were observed during life by Dr Habershon; but in numerous instances he did not see the patients while alive, and it was in his capacity of demonstrator of morbid anatomy that he became acquainted with the lesions they presented, previous to having any knowledge of the history of the case. In many instances indeed the physician who had charge of the patient supplied him with information as to the symptoms presented during life; still, such a mode of drawing up cases, is never satisfactory; in the great majority of instances the information so obtained is defective, almost valueless for clinical purposes, and only sufficient to throw a modified amount of light on the morbid appearances found. No doubt in a few instances the history of the cases supplied is full and ample; but these are exceptional, and the meagreness of the majority contrasts very unfavourably with the fulness and accuracy of others which had been under Dr Habershon’s own observation. For instance, what information does the following history (selected at random) give in a clinical point of view:—“Thomas C., aet. 43, was admitted into Guy’s Hospital, December 7th, 1853, and died December 31st. By trade he was a sailmaker, and during his life had been very intemperate. He was admitted with anasarca, and coagulable urine; diarrhoea and wasting came on, and before death he passed into a semi-comatose condition. Inspection was made forty-seven hours after death.” At the inspection, a portion of the lower part of the ileum was found in a sloughy condition; there was general peritonitis; the kidneys were diseased; the left lobe of the liver was degenerated; and there was lobular pneumonia. But what light does the case throw on the symptomatology of enteritis? This is our main objection to Dr Habershon’s book; it is written too much from a pathological, too little from a clinical point of view. Many of the cases are only important as descriptions of morbid specimens.

In some cases, and with great advantage, Dr Habershon departs from his usual mode of arrangement, and treats of morbid conditions from a physiological point of view; thus, under the morbid conditions of the œsophagus, he considers dysphagia, and illustrates the various circumstances upon which it may depend; under the heading...
functional diseases of the stomach," he treats of the causation and diagnostic importance of dyspepsia, hæmatemesis, pain, and vomiting. While we have felt bound to make these remarks regarding what we cannot but consider a mistake in the original planning of the work, we willingly admit that it contains much valuable matter, and presents the results of careful and accurate observation.

A new chapter on peritonitis has been introduced into this volume. Dr Habershon denies that this disease has a local character, unless excited by injury of the serous membrane or by the direct propagation of disease. "In relation to its causes," he states, "cases of peritonitis may be divided into three classes: 1. Peritonitis produced by the extension of disease from adjoining visceræ, or excited by direct injury, including cases of perforation of visceræ, extravasation, violence, etc. 2. Peritonitis connected with blood changes, as when inflammation of the serous membrane occurs in the course of albuminuria, pyæmia, puerperal fever, erysipelas, etc. 3. Peritonitis caused by general nutritive changes of the system, which have been followed by acute or chronic disease of the peritoneum, such as struma, cancer, etc.; and comprising also those cases in which the circulation of the peritoneum has been so altered by continued hyperæmia (modifying its state of growth), that very slight exciting causes suffice to induce acute mischief, as occurs in peritonitis with cirrhosis, disease of the heart, etc."

With these remarks we generally agree, although we have met with a few cases, where, in the absence of any other cause, we have felt constrained to regard the peritonitis as a local affection. Dr Habershon's remarks on the treatment of this disease are judicious; he trusts chiefly to opium, anodynes, or counter-irritants externally, and to the occasional administration of gentle enemata. Mercury in any form he disapproves of, and concludes his observations regarding it by saying, "We are well aware that many instances of acute peritonitis from diseased caecum, from enteritis, and from ovarian disease, recover after mercury has been given; but as far as the causes we have enumerated can be any guide, and from extensive experience in these cases, we strongly deprecate its use."

The Pathology and Treatment of Phlegmasia Dolens, as deduced from Clinical and Physiological Researches. By F. W. Mackenzie, M.D., etc. London: Churchill: 1862.

This work is a publication in a separate form of the three Lettsomian lectures on Midwifery delivered by Dr Mackenzie to the Medical Society of London (of which Society he is vice-president) during the session 1861-62.

The first lecture includes a short historical account of phlegmasia dolens, as we find notices of it and theories regarding its pathology
in the works of Mauriceau, Puzos, Levret, White of Manchester, Trye of Gloucester, Ferrier, Hull, Davis, and Robert Lee.

The author then briefly states the conclusions at which he has arrived, and which he endeavours to establish in the lectures. These are:

1. Crural phlebitis, in a pure and uncomplicated form, cannot give rise to all the local and general phenomena of the disease, and therefore cannot be its proximate cause.

2. Phlebitis itself is, for the most part, not a primary but a secondary affection; and in the great majority of cases is a consequence of the circulation of impure or morbid blood in the veins.

3. The proximate cause of the disease is therefore presumably a morbid condition of the blood, which I have experimentally shown to be capable of producing not only the lesions of the veins met with in the disease, but all its other phenomena.

The clinical history of the disease, including its causes, symptoms, and morbid anatomy, are now investigated by an analysis of 60 cases of puerperal phlegmasia dolens. In 33 out of the 60, the phlegmasia dolens was preceded by an attack of puerperal fever. The causes (known or suspected) of these fevers are made the subject of careful analysis. The causes of the cases, which were apparently unconnected with puerperal fever, are next examined, and from the great variety of the modes of origin, the deduction is drawn of the probability, at least, of the "existence of some common link or medium" which is sought "in an abnormal condition of the blood."

A distinction is next drawn, and this Dr Mackenzie claims as original, between the simple and the complicated forms of the disease. The simple includes four sub-divisions,—the puerperal, the anaemic, the rheumatic, and the gastric, from their causation and special symptoms. The complicated includes endless varieties, according to the nature of their precursory or coincident symptoms.

The lecture closes with an account of the morbid anatomy "special" of the limb, "general" of other regions.

Lecture II. is devoted to the consideration of the subject from its physiological aspect, and specially of the author's own experiments on crural phlebitis, which he selected as being the anatomical lesion of the affected limb most frequently present. From these experiments, which are more fully detailed in the thirty-sixth volume of the Medico-Chirurgical Transactions, two conclusions are drawn:

1. That a local phlebitis may be produced as the result of a local cause, which will have the general phenomena of phlebitis, and yet none of the phenomena of phlegmasia dolens.

2. That, by vitiating the general mass of the blood, phlebitis may be produced; in which case, however, are superadded all the phenomena of phlegmasia dolens.

From these, again, the conclusion is drawn of the blood-origin of the disease.

Lecture III. contains the practical deductions regarding,—1, Pre-
ventive treatment,—local, consisting especially in the removal of urinary and faecal retention, and avoidance of intestinal, mammary, spinal, or pelvic irritations; constitutional, by hygiene and dietetics; 2. The curative treatment of the sthenic and asthenic types respectively.

Though there are many points (in the pathological section especially) on which we cannot agree with Dr Mackenzie, and though some of his conclusions are, we think, based upon insufficient premises, still this book is a true monograph, not a mere treatise hurriedly put together for a special purpose, but the deliberate opinion of one who, to great practical experience, has added much thought and many original experiments.

The Microscope and its Revelations. By William B. Carpenter, M.D., etc., etc. Third Edition, illustrated by ten plates and nearly four hundred wood engravings. London: Churchill: 1862.

We are informed in the preface that five thousand copies of this manual have already been sold, but this success has not prevented the author from carefully revising and partially rewriting it. As it now stands it forms an admirable practical guide to the microscopist, describing minutely the structure and the mode of using his instrument with its accessories, and entering into a full account of the most interesting subjects for examination from the various kingdoms of nature. Like all Mr Churchill's manuals this work is carefully got up, and profusely illustrated.

Part Third.

Periscope.

Midwifery.

Discussion on Ovariotomy.

At a meeting of the Royal Medico-Chirurgical Society, held on Tuesday, 9th December, a paper was read by Mr Spencer Wells, entitled "History and Progress of Ovariotomy in Great Britain; with Observations founded on Personal Experience of the Operation in fifty Cases."

The author commenced by proving that ovariotomy is an operation of British origin. It was first suggested by William Hunter, was warmly advocated by John Bell, and was first practised by Dr M'Dowell, an American pupil of John Bell. He then proved that its subsequent progress is chiefly due to the labours of British Surgeons. He traced the progress of the operation from its first performance in Scotland by Mr Lizar, in 1823, Dr Granville's attempts in London in 1827, and the first successful case in England in 1836, by Mr Jeaffre-