REVIEWS OF
BRITISH AND FOREIGN LITERATURE.

Walter und Emmerich, Die Entstehungursachen der Gelsenkirchener Typhus-Epidemie von 1901. München.

This monograph forms the first volume of the works published in honour of the jubilee of the well-known teachings of Max von Pettenkofer on this subject.

The facts connected with this epidemic are of very considerable interest. Geheimrat R. Koch, on 21st October 1901, gave it as his opinion that it was well established that the epidemic had been occasioned by the introduction of typhoid evacuations from the Horst into the Eiberg stream, from here into the Ruhr river, and from there was pumped into the water supply. On the strength of this opinion, legal proceedings were commenced against the directors of the water works for causing the epidemic by the introduction of unfiltered Ruhr water. The defendants invoked the help of Professor Emmerich and Dr. F. Wolter of Hamburg, disciples of the well-known Pettenkofer.

This monograph contains the evidence which they brought forward at the trial.

The Court had therefore to decide whether the epidemic was due to a contamination of the water supply with typhoid organisms, and if so, the directors were responsible for occasioning it; or if, as the followers of Pettenkofer affirmed, the water contamination had nothing to do with it, the epidemic being due to special local conditions of the soil which existed at Gelsenkirchen. The verdict as regards the occasioning the epidemic was practically that of “Not proven.” The accused were fined on account of adulteration of “food material.”

The monograph is divided into two parts: Part 1, by Dr. Friedrich Wolter, on the general epidemiological facts connected with the epidemic. Part 2, by Professor Dr. Rudolf Emmerich, which includes the experimental part of the investigation.

Part 1 is again subdivided, and solution of the two following problems is sought:—(a) Whether, in the autumn of 1901, in the affected district, the local and seasonal conditions, which, according to the epidemiological teachings of von Pettenkofer, occasion an epidemic outbreak of typhoid fever in a region where typhoid is always endemic, were present? (b) Whether the epidemic could be occasioned through water infection from the evidence brought forward?

In Part 2 Professor Emmerich deals with—(1) The character of the soil of the affected area. (2) The occurrence of typhoid bacilli in the pure (virgin) and impure soil of the affected area. (3) The degree of the impurity of the soil in the affected district, and the cause of this. (4) The output and distribution of typhoid bacilli on the surface of the soil before the outbreak of the epidemic. (5) The transference of the typhoid bacilli from the surface of the soil to human food material by so-called “intermediate carriers.” (6) The degree of moisture of the soil in the affected area. (7) The saturation of the soil by moisture—a
protection against typhoid and cholera epidemics. (8) The influence of dryness and rains on the occurrence and extinction of the typhoid epidemic. (9) A summing-up of the general causes of the epidemic. (10) Favourable conditions for the spread of the epidemic by commerce and conditions of dwelling-houses. (11) The occurrence of typhoid bacilli in the Eiberg stream and Ruhr water. (12) The pump pipe (by which the water was taken from the Ruhr). (13) Could the typhoid bacilli multiply in the Ruhr water before and during the epidemic in 1901? (14) The chemical and bacteriological characters of the Eiberg stream water. (15) The Leyther filter bed and the break in the 12-inch pipe. (16) The establishment of the complaint, the refutation of the same, and further grounds against the causal rôle of the drinking water. (17) The use of unfiltered drinking water in periods of great dryness and the existence of typhoid epidemics is accidental and of no causal connection. (18) The extension of the drinking water epidemic into a "contact" epidemic in Gelsenkirchen. (19) The campaign against typhoid epidemics.

The authors may be congratulated on the painstaking and laborious investigations which are embodied in this work. The monograph is illustrated by maps and photographs. The map shows the distribution of the water supply and the typhoid areas at Gelsenkirchen. The photographs illustrate very well the defects in the sanitary conditions of the town.

The authors draw the conclusion that their observations and experiments support the views of Pettenkofer regarding the etiology of typhoid fever, namely, that certain conditions of soil are the essential factors in the spread of the disease. The trend of modern investigation, however, is against this theory or hypothesis, because it shows us that the extracorporeal life of pathogenic organisms is very limited. Koch maintains that the true host of the typhoid bacillus is the human tissues, and that it lives for a very short time in water, soil, etc. The very careful work of Frosch and von Drigalski in Trier show that it is possible to stamp out an epidemic of typhoid, provided that every case of infection is recognised and isolated. The recognition of all cases is difficult, as many show few symptoms of disease, and it is necessary to employ special methods to detect them. Some cases continue to excrete bacilli for long periods in the urine or faeces after complete recovery. Such cases as these, which ordinarily escape detection, continue to keep up the spread of the disease. In consequence of the success of the initial experiments of Frosch, the German Government have established eleven bacteriological institutes in Alsace Lorraine, where typhoid is endemic, with three or four trained workers in each, in order to combat the typhoid fever there. The results have been satisfactory, especially amongst the military population, where recognition and isolation can be more effectively carried out. This method of attacking the disease is the direct one, and the results obtained enabled the indirect measures, i.e. improving the general sanitary conditions, to be carried out with greater scientific accuracy. We see, therefore, that the results obtained by the anti-typhoid Commission in Alsace Lorraine are directly opposed to the teachings of Pettenkofer. The Commission have further shown that many cases returned as typhoid fever are not due to Eberth's bacillus,
but to *Bacillus paratyphosus* B, a totally different organism. So that what is called a typhoid epidemic is in many cases really a paratyphoid infection. Amongst our troops in India, where, as is well known, typhoid fever is very prevalent, the prosecution of the line of attack carried on in Alsace Lorraine by isolation of all cases of typhoid and paratyphoid infections offers more chances of success than the more problematical ones based on the teachings of fifty years ago of the renowned Pettenkofer.

Clinical Applied Anatomy, or the Anatomy of Medicine and Surgery.

By CHARLES R. BOX and W. M’ADAM ECCLES. London: J. & A. Churchill.

This is an instructive book, which we should like to see in the hands of every student engaged in clinical work. It differs from other books with a similar title, inasmuch as it can hardly fail to attract and retain the interest of the reader, and it discourses as little on anatomy as a work professing to deal with this subject could possibly be expected to do. Its table of contents is marvellously like that of a text-book on surgery: beginning with inflammation, the chapters succeed one another with gangrene, burns and scalds, parasites, tumours, fractures, dislocations, and lesions of the various systems, concluding with diseases of the ear; the text, however, teaches medicine and surgery, anatomy and pathology, all harmoniously blended so as to present the clinical features of disease in a light at once interesting and instructive.

When it is understood that in the preparation of the volume the authors have endeavoured to follow, in some degree, the lines of Hilton’s “Rest and Pain,” it goes without saying that it is no cram book intended to prepare candidates for examination, but a scholarly work written with the highest of motives. As already indicated, we have formed a very high opinion of the work, and what we say in the way of criticism is not dictated by anything approaching the captious spirit.

The inequality of scope in the different chapters of the book is as remarkable as it is incomprehensible. The information given under certain heads is so meagre and elementary as to fail in accomplishing whatever object the authors had in view. The chapter on Tumours, for example, describes some varieties quite adequately, while others are slurred over or not mentioned at all (e.g., Neuromata, Endotheliomata). Fractures and Dislocations receive a fair amount of attention, while Diseases of Bones are dismissed in less than three pages, one-half of which treats of spinal caries; Diseases of Joints are given their congé with four and one-half pages, in which limited space an attempt is made to describe the diseases of the individual articulations.

The chapter on the Muscles, Tendons, and Fascia, although short, is a useful one, the observations on the muscles selected for comment being eminently suggestive; but with so much to say in the limited space, why give one and one-half pages to Dupuytren’s contraction of the palmar fascia?

It is in the chapters on the Nervous System that the authors first justify the title of the work, and give a really adequate and comprehensive description of the subject in hand, and this section of the book
is admirably illustrated. In the surgery of the peripheral nerves, the time-honoured statements of older works reappear without any reference to the illuminating observations of Head, Sherren, and others. The diseases of the vascular, lymphatic, respiratory, alimentary, urinary, and genital systems are described and illustrated upon a standard little short of that attained in the nervous system.

The authors’ style is attractive, and, with a few unimportant exceptions, eminently clear. The following paragraph (p. 396) might be remodelled with advantage:—“When a femoral protrusion has left the femoral canal, it most frequently tends to descend the front of the thigh rather than to ascend superficial to Poupart’s ligament. The upward course is, indeed, probably by the attachment of the deep layer of the superficial fascia to the fascia lata being very firm.” At the end of the first paragraph on page 165 the word “carotid” should be in the plural.

*The Physiology and Therapeutics of the Harrogate Waters, Baths, and Climate.* By William Bain, M.D., M.R.C.P., and Wilfrid Edgecombe, M.D., F.R.C.S. London: Longmans, Green, & Co.

Of the utility of this book there can be no question, and we welcome it for several reasons. In the first place, nothing is more vexatious to a patient (and the annoyance recoils on the head of his medical adviser) than to be sent to a spa which is unsuited to his complaint, or at a wrong season of the year. In the second place, we have here evidence that our home waters may be as efficacious in the treatment of disease as those of the foreigner, and that local authorities are becoming alive to this, and developing their natural resources by the most modern equipment for balneo-therapeutics. In the first section of Drs. Bain and Edgecombe's book we have a general account of the pharmacology of the Harrogate waters so far as it has been worked out. There is a short but clear introductory account of the theory of ions, which has shed so much light of late years on the physiological action of salts. The springs of Harrogate number no less than seventeen, and fall into two classes—the saline-sulphur and saline-chalybeate. The old sulphur water, the most powerful and generally useful of these, has been studied most fully by the authors, both by personal experimentation, and by observations on animals, and numerous tables and charts illustrating its effects are given. After the description of each spring there is a short résumé of its therapeutic use. The second section deals with the baths, which include not only those indigenous to the locality, but various imported baths—brine, peat, etc., special methods—the Aix and Vichy douche, for example, and all the different forms of heat, light, and electric baths. The action of the baths and their uses are next considered, and here, as elsewhere throughout the book, the writers seem to us to take a moderate and judicious view of the value of spa treatment—neither exalting it as a panacea, nor yet depreciating its effects because many of these have been learned empirically and are not susceptible of scientific explanation. The third section deals with the climate, etc., of the town, and though this is necessarily rather reminiscent of the guide-book, its exclusion would have lessened the practical usefulness of the book. Finally, we have a general account of
the treatment of chronic disease at Harrogate. From a table given it seems that more than 60 per cent. of the patients sent suffer from gout, rheumatism, skin diseases, neurasthenia, or hepatic or gastric disorder. Only general indications for the employment of the waters are given, and this is obviously but reasonable, for no one but a physician actually practising at the watering-place can satisfactorily advise individual patients. Nevertheless the chapters on general therapeutics will prove a useful guide, and will prevent unsuitable cases being sent to Harrogate. We think that the authors have produced a very serviceable book, and one which will enhance the repute of the Harrogate waters. If other British spas were similarly dealt with, the eflux of Britons to foreign "Bads" might be prevented, and even, some day, the Teuton come to England for his "Kur."

Physiology of the Nervous System. By J. P. Morat, of the University of Lyons. Translated and edited by H. W. Syers, M.A., M.D. (Cantab.). London: Archibald Constable & Co. Ltd.

The book is a translation of the portion of the "Treatise on Physiology," by Professors Morat and Doyon which is devoted to the functions of innervation. It is a large work, and well illustrated by diagrams in the text. Anatomical description is not indulged in except where essential for the explanation of the functions of different parts; much of it is indicated by diagrams. The physiology of the whole of the central and peripheral parts of the nervous system is gone into, so that the scope of the work is a large one. In each subject the views of different authorities are considered and discussed, references to literature are numerous, and the author has often decided views of his own.

The first part deals with the peripheral nerves, and the physiology of the "nervous element" or neurone. It contains material which is unusual in British text-books, but some subjects are less fully treated. The theoretical side is strong throughout; much of it is highly speculative in the light of our present knowledge, but all the more interesting and suggestive on that account. Individual nerves, spinal and cranial, are considered, and their functions described.

Reflex action is next taken up, gradually passing from the lower to the higher and more complex reflexes. The functions of the various tracts and centres of the spinal cord are discussed, and the sympathetic system has a special section devoted to it.

The different parts of the brain are considered in detail, and the last part in the book describes the functions of the special senses.

The description is clear and well arranged, and has not suffered in the translation. Some of the terms strike one as being clumsy, such as "primary systematisations," which is the heading of a chapter, including reflex action, excitation, and inhibition, and a classification of nerves; but the author's meaning is quite clear when the text is read. An immense amount of material is collected and presented in an interesting manner without any appearance of being cramped. The physiology of the nervous system is making such rapid strides that it is difficult to keep any description of it up to date, and the book suffers in this respect, but not more so than others of its kind. It is a very useful work and well worth study.
A Contribution to the Pathology of the Endometrium. By Jessie M.
MacGregor, M.D. Edinburgh and London: William Green & Sons.

In this monograph Dr. Jessie MacGregor has supplied a most interesting and valuable contribution to the subject of endometritis. In spite of the large amount of work already done, there are still marked differences of opinion as to nomenclature, classification, and the interpretation of appearances as seen under the microscope. This literature exists widely scattered, and it is time that there was a summing-up of our knowledge. This Dr. MacGregor has undertaken, not only reviewing but reworking the subject, a labour that has involved the examination of two hundred and fifty specimens. The whole subject of the endometrium, both on its physiological and pathological side, is here considered in detail, and what adds so immensely to the interest and value of the book is the comprehensive series of micro-photographs (numbering 106). By their means we are enabled easily to follow the author in her descriptions, and to appreciate the classification that she bases thereon. Several points of interest stand out in the course of a perusal of this book. The first is the difficulty that we have in saying what is the limit of physiological changes in the endometrium. The constant variations that it undergoes in association with menstruation, pregnancy, the climacteric, and senility are scarcely yet appreciated as they should be. Some of the photographs illustrating them are well worthy of study. The task of finding some term which shall cover all cases seems to increase in difficulty rather than to diminish as our knowledge of the changes in the endometrium advances. Dr. MacGregor would prefer to employ the term "uterine catarrh" for clinical purposes, as being less ambiguous than endometritis. It certainly presents some advantages, but we should have thought that these lay in its greater ambiguity. From the pathological point of view Dr. MacGregor suggests a classification, which, so far as her interpretation of the microscopical appearances is concerned, seems to be a sound one. Whether the line between the so-called congestive òedema and the adenomatous variety is as clearly defined as she would seem to indicate, we have some doubts.

Most useful from a practical point of view is the section on transitional types, and the difficulties that may be met with in distinguishing between malignant and non-malignant forms. A further point worth noting is the impossibility at the present time of correlating the various changes in the endometrium with the clinical symptoms. It is undoubtedly in this direction that further information is required.

This is a most careful and thoughtful work, and we think there are few who could read it through without gaining a clearer conception of this difficult subject. The illustrations alone make it a valuable work of reference, this being the only attempt that we know of to supply such a comprehensive series.

We recommend this monograph without hesitation to all those who would know something of the very varied conditions that are included under the heading of endometritis.
Notable Scottish Trials: "Dr. Pritchard." By William Roughead, W.S.
Glasgow: William Hodge & Co.

The second of the Series of Notable Scottish Trials is as full of interest as the volume dealing with the trial of Madeleine Smith.

The author must be congratulated on producing a book, not only of popular interest, but also of considerable scientific value to the student of forensic medicine. The history of this remarkable case has been compiled with an amount of care and completeness which reflects the greatest credit upon the writer, and, with the exception of a few printer's errors, we have found nothing to which exception can be taken. Many important facts relating to the trial and circumstances connected with it are published for the first time, so far as we are aware, in the present volume. It is thus bound, on account of its completeness, to take the place of all previous publications on the subject.

The scientific evidence is naturally that which will appeal most to the medical man or chemist. Two points in connection with this evidence may be referred to as of special importance and interest. The first is the fact that Sir Douglas Maclagan, who appeared for the Crown, did not discover the presence of mercury in his chemical analysis of the organs of Mrs. Taylor, Pritchard's mother-in-law, until his attention was specially directed to it by Dr. Penney of Glasgow. This was an error not difficult to account for, but at the same time the fact conveys a warning, namely, that in such cases nothing should be left to chance; and just as it is a rule in performing a medico-legal post-mortem examination to examine every cavity and organ of the body, no matter how apparent the cause of death may seem, so in the chemical analysis we must not be turned aside by the discovery of one deadly poison from searching for the possible presence of yet another.

A circumstance not generally known, we believe, is that Dr. Penney made the same mistake, and that the credit of being the first to detect the presence of mercury was really due to Dr. Penney's assistant, who is now himself a well-known analyst.

The second point to which we would allude is the evidence given by Dr. Paterson at the trial, which teaches a valuable lesson to medical witnesses for all time coming. His evidence earned the severe strictures of counsel for the prisoner, and the grave censure of the judge in his charge to the jury. It would take up too much space to go into this aspect of the trial, and we can only recommend those interested to read the evidence for themselves, and the defence of his conduct published by Dr. Paterson after the trial, which is included in the appendix to this most fascinating history of a remarkable crime.

NOTES ON BOOKS.

This volume—Dissecting Manual, based on Cunningham's Anatomy, by Wm. H. Rockwell, Junr., M.D. (W. Wood & Son, New York)—is described as a dissecting manual, intended for dissecting-room use, but it is entirely different from other books designed for this purpose. No instructions are given regarding dissection, and there are no descriptions