The scope of Dr. Cowan's book on Diseases of the Heart is succinctly indicated by its preface, in which, after an enumeration of the methods by which the recent progress in cardiology has been accomplished, the author states that his object is "to review the whole subject in the light of these recent advances, and to present to the practitioner the results which have been attained, and their bearing upon the practical work of diagnosis, prognosis, and treatment." The achievement of such an object involves the production of a volume not too long for the busy practitioner's use, a volume which, while it must throughout remain closely in touch with clinical requirements, shall yet present him with the latest results of laboratory methods. In his successful attempt to fulfil these desiderata, Dr. Cowan has been happy in the method he has chosen. His book, although references to the work of others and to the literature are by no means neglected, is very largely based upon his personal work in the subject he has made his own, and illustrative cases from his wards are freely used in support of the propositions he advances, a method which makes for intimacy, and establishes between author and reader the relations of lecturer and listener. Dr. Cowan is an ardent supporter of the myogenic theory, and it is not surprising to find that his volume opens with an account of the diseases of the myocardium, in which he makes a sharp distinction between para-arterial and peri-arterial fibrosis—the former dystrophic, and due to interference with the circulation through the nutrient vessels; the latter inflammatory, and related to the acute infections, of which rheumatism is the chief. This is followed by a chapter on the pathology of arterial disease, in which its diffuse and focal forms (arterio-sclerosis and atheroma) are
clearly differentiated, and the subject of increased blood-pressure receives detailed consideration, its clinical bearings being dealt with in the succeeding chapter devoted to the symptoms of arterial disease. A note on the ocular manifestations of arterio-sclerosis, by Dr. A. J. Ballantyne, is succeeded by a discussion of its treatment, in which much stress is laid upon the dietetic factor, and from this the author passes to a statement of the myogenic theory, with which he associates a very lucid exposition of the characteristics of polygraphic curves. A brief chapter on the electro-cardiograph, by Dr. W. T. Ritchie, yet conveys a clear idea of its principle and of its diagnostic value, and is followed by chapters upon stimulus production, nodal rhythm—of which the treatment is particularly perspicuous—contractility, conductivity, under which heading heart-block and the Stokes-Adams' syndrome receive attention, tonicity, coupled rhythm, paroxysmal tachycardia, auricular flutter, and auricular fibrillation.

The second half of the volume deals with subjects until recently more familiar. Here acute endocarditis is first discussed at considerable length, and with a wealth of illustrative material. Chronic valvular disease is considered in chapters devoted to its pathology and etiology, symptoms, diagnosis, prognosis, and treatment. A chapter is given to myocardial failure without valvular lesion; and the volume ends, where many former text-books have begun, with the consideration of pericarditis and adherent pericardium. Dr. Cowan works from within outwards, reversing the usual procedure; and it will be seen how his whole-hearted adoption of the myogenic theory has necessarily influenced the course of his exposition.

It should be unnecessary to say that in a book intended for the practitioner discussion of points which chiefly interest specialists can be but brief, and it is not to be looked for that the rival claims of the myogenic and neurogenic theories should be set forth at length; but it might yet have been possible to indicate that there is a neurogenic theory. The treatment of most of the subjects dealt with is ample for the needs of the practitioner, and there is much in the handling of the allorrhythmias that must also interest the specialist; but if the functions of tonicity and contractility were to be discussed at all, it would seem worth while to have given them somewhat greater space. We note, too, that Dr. Cowan retains the terms "nodal rhythm"—although in a sense more
restricted than that in which Mackenzie originally used it—and "extra-systole," for which "premature contraction" is now used by Lewis and others. It is much to be hoped that some uniformity in nomenclature may shortly be arrived at, for the sake of clearness of conception upon a subject in which there are still more than enough obscurities.

If we have offered these criticisms on what after all are points of detail, it is because the general conception of the work leaves little to criticise. Dr. Cowan, and the school of medicine to which he belongs, are to be congratulated upon a book which is at once scientific and practical, which represents the latest results of investigation in the subject with which it deals, and which cannot fail to profit the reader who will give it the serious study it deserves. It would be an injustice to bring these comments to a close without a reference to the excellence of the illustrations and of the polygraphic tracings.

Modern Problems of Biology. By CHARLES SEDGWICK MINOT. With 53 Illustrations. Philadelphia: P. Blakiston's Sons & Co. 1913.

After Professor Eucken, of Jena, had been called to Harvard University as Exchange Professor, the Rector Magnificentissimus of Jena expressed the wish that the Harvard Exchange Professor at Berlin should lecture also in Jena. In accordance with this wish, Professor Minot was invited to deliver six lectures in Jena. These lectures now appear in book form, under the title "Modern Problems of Biology."

In the first lecture the author propounds the new cell doctrine, viz., that the condition, composition, and structure of the living substance is of fundamental significance, and is, strictly speaking, more important for the comprehension of vital phenomena than the fact that the physical basis of life shows a strong tendency to form cells. The chief problem of biology, then, is the investigation of the structure and chemical composition of living substance, and not of cells. Cytomorphosis, or the transformation of cells, is considered in the second lecture, and the author dwells on differentiation of the protoplasm, illustrating his remarks by examples in different tissues of the body. In the succeeding lecture the doctrine of immortality is taken up. "If it should occur that all the cells of an animal or plant should pass through a complete cytomorphosis they would all die off, the organism
would reach its end, and could produce no progeny.” Some of the cells do not become differentiated, and are transformed into sexual cells. How this happens we do not know. The lecturer gives some prominence to the researches of Woods and Allen in the history of the sex cells in vertebrates, and the migration of these cells to the region of the sexual gland. He then outlines the work of Hertwig on impregnation of the ovum, and mentions Moenkhaus’s corroboration of Hertwig’s results. Nussbaum’s theory of heredity—a portion of the living substance is withheld from the developing ovum, kept comparatively unaltered, and employed for the formation of sexual elements—has, in the lecturer’s opinion, become “the only theory of heredity which we value.” At the present time we must admit that the nucleus plays a part, not an exclusive rôle, in heredity. Referring to Conklin’s work on centrifuged eggs, the lecturer declares that “the essence of reproduction is the continuation of the growth of immortal protoplasm.”

The evolution of death next claims attention. The process of senescence is considered. Rate of growth at different periods is illustrated by many charts, and the conclusion drawn is that “there occurs an enormous decrease in the rate of growth during embryonic life.” The diminution after birth is very gradual. The lecturer believes that differentiation in the cells is the essential cause of diminution in growth, but he admits that this theory may yet be found wanting. It seems to him probable that death, as we now know it in the human race, was evolved gradually as a consequence of differentiation; but what death is remains a mystery.

The determination of sex and the conception of life are the subjects dealt with in the remaining two lectures. The hypothesis is advanced that sex rests on a physical basis, recognisable by differences in the proportion of chromatin in the cells of the male and female body. Reference is made to the striking observations in this field of work by American biologists. In dealing with the conception of life the lecturer sets forth the hypothesis that consciousness may cause the transformation of energy, and that it is itself not energy.

We are indebted to Professor Minot for a volume which places before its readers a reasoned statement regarding the problems of biology. From beginning to end our interest is never allowed to flag. The lecturer introduces speculative subjects, and shows how workers are attacking them. He is not content with so doing, but subjects the conclusions of the
observers to criticism. He expresses his own views on the different problems under consideration, and the modesty with which he does so will certainly lead to their receiving careful consideration. The volume is a mental stimulant of a high degree of merit: no one can peruse it without being benefited.

The Practical Medicine Series, 1913. Vol. V: Pediatrics, edited by ISAAC A. ABT, M.D.; Orthopedic Surgery, edited by JOHN RIDLON, M.D., with the collaboration of CHARLES A. PARKER, M.D. Chicago: The Year Book Publishers.

In this volume we have a revue of recent literature on the medical and surgical diseases of children.

The contents of the medical part of the volume comprise gastro-intestinal diseases, the exanthemata, infantile paralysis, syphilis, tuberculosis, &c. In the surgical part diseases (tuberculuous and otherwise) of the joints and spine, congenital dislocation of the hip, talipes, hallux valgus, and the treatment of deformities from infantile paralysis occupy a large portion of the space.

We have turned up many different subjects in the volume, and we find that for its size it contains a great amount of information as to recent work. A special feature in the section of orthopedic surgery is the comments, within brackets, by the editors on the views expressed by the writers of the papers under consideration.

For busy practitioners and others this book forms a convenient means of keeping abreast of current literature, and to anyone interested in a special subject the references to papers will be of great use.

Practical Bacteriology, Microbiology and Serum Therapy. By Dr. A. Besson. Translated and Adapted from the Fifth French Edition by H. J. HUTCHENS, M.R.C.S. London: Longmans, Green & Co. 1913.

In the preface to the English edition the translator states that the popularity of Dr. Besson's work in French-speaking countries seems to be sufficient justification for the translation. As a matter of fact, Mr. Hutchens deserves the thanks of all
English-speaking countries for the reproduction of this magnificent work on these subjects. The book is got up in a style which puts to shame very many of the English works dealing more or less with the same subjects, and in practice the main drawback is the price, which is thirty-six shillings net.

Mr. Hutchens has not rested content with simply acting as translator, and in this respect he has acted very wisely, as many of the translator’s notes, additions, arrangements, illustrations, &c., render the book of much greater value to readers in this country than would have been the case had a translation only been aimed at.

While essentially a practical laboratory text-book, it has been found desirable to include a chapter on “Immunity and the properties of immune serums.”

The illustrations are very numerous, and are of unusual merit as faithful pictures of the original. In addition, the number of coloured illustrations is large (149 out of 416), and, unlike not a few English books on these and cognate subjects, the colouring is a true reproduction of the staining effects. To the earnest reader this is an enormous advantage, as he sees the actual appearances which are present in the films, &c., as stained.

The translator has arranged the work in seven parts as follows:—“General technique,” “The pathogenic bacteria,” “The parasitic fungi,” “The pathogenic spirochætæ,” “The protozoan parasites,” “The filtrable viruses,” and “The application of bacteriological methods to the examination of water, sewage, and air.” In most of these there are elaborate sub-divisions, and the whole is comprised in sixty-six chapters.

The part on “General technique” is full of detail, and will be found of very great advantage in every bacteriological laboratory. The methods and apparatus of sterilisation by the different agencies are carefully and thoroughly treated, and all the important apparatus is fully illustrated. The chapter on “Culture media” is also full, and is again well illustrated. In this chapter the translator has embodied many additions of much value. For example, the author is apparently without knowledge of the admirable apparatus of Hearson, without which no bacteriological laboratory in this country would be complete.

The chapter dealing with the isolation of aerobic organisms in pure culture is particularly good, as this is one of the most delicate of all bacteriological investigations.
The cultivation of organisms in liquid and on solid media gets careful and thorough treatment.

Chapter VII, on the microscope, might, with advantage, have been put at the beginning, as it is important that with regard to this essential piece of apparatus the worker should at the very first have an intimate knowledge of all its parts. Apart from this the chapter is excellent. The method of using the dark ground illuminator is fully described, and excellent plates are given of the appearances found thereby. Practice is necessary with this method in particular, as the results differ very greatly from those obtained by the usual stained and fixed films.

In Chapter VIII, on the microscopical examination of cultures of organisms, the information is not quite so up-to-date as it might be, but still, on the whole, little fault can be found with the matter actually present. The advice on page 131, to drop all used slides and cover glasses when they are finished with into a dish containing spirit, cannot be commended; it is far better to drop these into a 2 per cent aqueous solution of lysol, as this quickly dissolves off all the material upon the slides, &c., and thus renders future mistakes from the presence of organisms still adherent much less likely to occur. That this possibility of error is a very real one every skilled laboratory worker knows and guards against. The author makes general use of a Pasteur pipette for taking up minute quantities of culture for examination; but the use, as in this country, of the platinum loop for this purpose is to be preferred. Similarly, the use of ordinary vaseline for luting the edges of the cover glass when on the slide is not so good as the use of sterile fluid paraffin by means of a pointed brush.

Dealing with the preparation of staining solutions the author sticks to the well-known formulae, but most workers know that modifications of many of these are now largely used in preference. For instance, in the preparation of carbol fuchsin absolute alcohol is now known to be quite superfluous and, indeed, perhaps prejudicial. Further, he recommends that aniline gentian violet should be prepared fresh daily, when, as a matter of fact, this solution remains trustworthy for at least ten days. The author states that these aniline solutions keep so badly that they are gradually dropping out of use in favour of the carbolic solutions, but in this he is incorrect so far as this country is concerned. Then the method of employing cover glasses for the preparation of stained films is recommended; the routine use of ordinary slides for this
purpose is infinitely better. Dealing with Gram's method of staining, no mention is made of neutral red as a counter stain; the use of neutral red or safranin is a routine practice now in most laboratories.

For staining spores and flagella a number of methods are described, and three methods are given for the staining of capsules.

Chapter IX deals with animal inoculation in general, and contains many valuable hints with regard to the selection and care of the animals employed. The handling of experimental animals is gone into in detail, and the information here is of much practical value. The technique of the various methods of inoculation is also fully described.

The chapter on post-mortem examinations refers practically exclusively to the examination of laboratory animals. The selection and preliminary treatment of tissues removed for histological examination is not full enough. The acetic-alcohol method is not mentioned. Further, it is stated that the use of formalin does not interfere with any of the staining methods; this method is inapplicable if Victor Bonney's stain is to be used, and for certain purposes this stain—a triple one—is an exceedingly valuable one.

The collection of material for bacteriological examination is dealt with carefully, and includes the method of taking cerebro-spinal fluid by lumbar puncture.

Chapter XIII, dealing with the bacteriological examination of fluids and tissues, is again not quite full enough. For example, Jenner's stain is not mentioned here as a stain for blood films, although in this country it is largely employed for the purpose, and has many advantages, including the fact that preliminary fixation is not required. In the description of paraffin embedding methods, no mention is made of chloroform or cedar oil as a substitute for xylol; the chloroform method is probably best of all, and has largely replaced xylol in many laboratories.

On page 217 a method of staining the typhoid bacillus is described by which this organism is stained by Gram's method, but without employing iodine; by this means the bacilli are said to be well stained.

The last chapter of this part is on immunity, and it will be found specially valuable and complete. Fixation of complement and the opsonins are given due treatment.

Part II, on the pathogenic bacteria, while full and well put, contains nothing of special significance, although a word of praise is due here with regard to the excellent illustrations
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in colours, which are numerous. Many of the names in this part are new, such as the *staphylococcus parvulus* and the *bacillus aerobicus sepsis*, and it is doubtful if it is desirable to include such in a book of this kind.

Part III, dealing with the parasitic fungi, is one of the best in the book, and is unusually full and accurate. The coloured illustrations here are again a feature. This part includes a very full description of the microscopical appearances and cultural characteristics of *sporotrichum*. This is of great value, as it appears clear that many cases of sporotrichosis occur undetected in this country, and a knowledge of the parasite is still confined to a few.

The parasites producing ringworm, also the parasites of various skin affections, are given full treatment in Chapter L, where again the illustrations are excellent.

Part IV deals with the pathogenic spirochaetæ. Although not of great length, this part is specially interesting, as it contains a full account of the *treponema pallidum*. The morphology and staining reactions of this are given in very full detail, also its detection and identification in the tissues. The serum diagnosis of syphilis is, further, referred to in detail, and the various methods of performing the Wassermann test are outlined. The Hecht-Fleming method is, however, not given. Additional methods of serum diagnosis in this instance are given. These include that of Porgés and Meyer, which depends upon the fact that syphilitic serum generally produces a precipitate when mixed with lecithin, whereas normal serum as a rule does not. Porgés' method, which depends upon the use of a solution of glycocholate of sodium, and Klausner's method, which has for its foundation the fact that syphilitic serum produces an opalescence or actual precipitate when mixed with distilled water, normal serum not behaving in this way, are also given.

Part V, dealing with the protozoan parasites, includes a description of the various amoææ, microsporidia, myxosporidia, sarcosporidia, and haplosporidia. The various forms of coccidium are also gone into, and the question of whether there is any actual association of coccidia with true carcinoma is discussed. In this connection the *micrococcus neoformans* of Doyen is noted, although the author is of opinion that its specificity is more than doubtful.

Chapter LVIII deals with the intra-corpuscular hæmatozoa, and includes a very full description of the various forms of the malarial parasite. This section includes also the piroplasmata which are the cause of disease in certain of the
lower animals. Chapter LXI deals with the parasites of the genus Leishmania, including the Leishman-Donovan and the Leishmania infantum. Chapter LXII gives a very full account of the flagellate parasites, the most important of which are the various forms of trypanosome. In this chapter the illustrations again reach a very high excellence.

Part VI includes a description of the filtrable viruses, and much useful information is given. Certainly this branch seems likely to become greatly amplified before long.

The last part of the book deals with the application of bacteriological methods to the examination of water, sewage, and air. There is nothing worthy of special note in this part, but the information and methods given are accurate.

Altogether, Dr. Besson’s book can be most unreservedly given a high place in the list of practical works on the subjects treated.

The Sanitary Inspector’s Handbook. By Albert Taylor. Fifth Edition. London: H. K. Lewis. 1914.

The fifth edition of Mr. Taylor’s book amply sustains the praise given to earlier editions in these pages.

Necessarily, fairly frequent editions of a book of this kind are essential, so that recent laws and regulations may be incorporated.

The illustrations throughout are excellent, and the tables are also valuable. With regard to the latter it would be an improvement if the vertical tables, such as those on pages 87, 110, and 317, were printed so that they could be read without the necessity of turning the book upside down.

The book will prove almost a necessity, not only to sanitary inspectors, but to all students of public health.

Report on Certain Outbreaks of Yellow Fever in West Africa in 1910 and 1911. By Drs. A. E. Horn and T. F. G. Mayer, of the West African Medical Staff.

The material for this Report has been supplied by various officers of the medical, sanitary, and other departments of the colonies concerned. The actual material has been supplemented at home by Mr. G. A. K. Marshall, M. Roubard, and Dr. Harald Seidelin.
The Report gives a detailed investigation of outbreaks of the disease occurring in Sierra Leone, Gold Coast, and Gambia, and will be found valuable in many respects.

The actual Report is supplemented by a number of valuable appendices and maps, which render it easy to follow the various points as to geographical distribution of the cases.

The high mortality (85 per cent) among Europeans is a striking feature. It is pointed out, however, that the general opinion is that yellow fever not infrequently occurs among natives also, frequently in a slight and almost unrecognisable form.

The descriptions of the sanitary measures taken form rather interesting reading, but much work still remains to be done all round with regard to this somewhat mysterious disease.

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Sleeping Sickness in the Island of Principe. By Surgeon-Captain Bernardo F. Bruto da Costa. Translated by Lieut.-Colonel J. A. Wyllie. London: Baillière, Tindall & Cox. 1913.

This production, which deals in an exhaustive manner with the subject of sleeping sickness in the Island of Principe, will be found of considerable interest from many points of view.

A few pages are devoted to a historical account of the disease and its introduction into Principe, followed by a short account of the use of atoxyl as a prophylactic upon animals attacked by trypanosomes in the island, with the adverse conclusions arrived at with regard to the efficacy of this treatment.

In a population, all told, of under 5,000 in the whole island, there is possibly some liability to error in drawing percentage deductions, but with this reservation it is striking to note that while the percentage general mortality was 5.7, that from sleeping sickness alone was 2.4.

Considerable space is devoted to a consideration of the prophylactic measures carried out by the planters in the island, and in this connection the gradual education of the planters themselves as to the value of preventive work forms interesting reading. In the same way the notes on the work of the owners and managers of estates in the island on the same lines is quite instructive.

The official conservancy brigade, which was formed for the purpose of assisting in the campaign against the disease, did
valuable work in eradicating secondary scrub jungle, cleansing stream beds, draining swamps, slaughtering pigs and other animals running wild, &c. Hospital provision is also dealt with. Many necessary reforms appear to have been impeded and retarded by various deplorable causes, such as official red tape, municipal extravagance in other directions, early hostility of the townsfolk to modern sanitary measures, &c., but it is satisfactory to note that in almost every direction now there is an evident desire to co-operate enthusiastically with all measures suggested by the sanitary authorities.

A few photographs are included, not of any special value. The book is not divided into chapters or sections, and the consecutiveness of events is thus rather difficult to follow. A number of tabulated results assist in elucidating the text.

The Control of Measles.

This pamphlet contains the views of various authorities on this question, and is issued by the Medical Officers of Schools Association. It will be found useful to those who are directly concerned in the question of the control of the disease in schools especially.

Transactions of the American Surgical Association. Vol. XXX. Edited by Archibald Maclaren, M.D. Philadelphia: W. J. Dornan. 1912.

This annual volume of Transactions contains the papers read before the Association at the meeting held in May, 1912. As usual, these cover a wide field. The President’s address deals with nephrectomy, and it is followed by papers on abdominal surgery, the surgery of the blood-vessels, dislocations, operative treatment of fractures, &c.

The Transactions form a good-sized volume, which will be found of value to the student of surgical literature.