

BOOK REVIEWS

OXIDATION-REDUCTION POTENTIALS IN BACTERIOLOGY AND BIOCHEMISTRY

By L. F. HEWITT, Ph.D., B.Sc., F.R.I.C. 6th Edition. Pp. viii + 215. Edinburgh: E. & S. Livingstone Ltd. 1950. 20s.

For the benefit of readers not versed in the subject, the book starts with an easy and clear description of oxidation-reduction processes in terms of electron migrations and the determination by measurement of electrode potentials. The degree of oxidation or reduction of a system is thus gauged and can be graded according to the intensity level. The mathematical part is given in full and can be skipped if too difficult. As the method using oxidation-reduction indicators has many disadvantages in practice, the author has adopted the potentiometric method, for which he describes the simple apparatus he himself uses; it is carefully illustrated by diagrams. Other practical methods described are the measurement of hydrogen ion concentration by the glass electrode, the polarograph and the microspectroscope for the examination of bacteria. The many systems of prime biological importance, metabolic cycles and chain reactions, chemotherapy and antibiotics, and applications to bacterial cultures comprise about half the book. Full references are given with a bibliography of 30 pages. All these descriptions are of intense interest and form a good summary of the general biochemistry of the subject. The book must surely be a help to biologists, bacteriologists and also to biochemists, for it is so easily and pleasantly written.

MEDICAL PROTOZOLOGY

By CECIL A. HOARE, F.R.S., D.Sc. Pp. xv + 334, with 43 figures. London: Baillière, Tindall and Cox. 1950. 35s.

Dr. Hoare has filled a gap in medical literature by writing this handbook on medical protozoology, for it is the only modern British publication which deals concisely with a subject which is becoming more and more important in the curriculum of the practitioner in the tropics. The increasing use of air travel has overcome the natural barriers of time and distance, and has brought tropical disease to our doorstep, so that the publication of this book is opportune. The subject is one that concerns every clinical pathologist in this country and abroad, and Dr. Hoare has succeeded in presenting the essentials in an attractive, easily assimilated manner, illustrated by clear lucid diagrams.

This book will be a perfect boon to the post-

graduate attending a tropical course for in the past he had to delve into bulky textbooks, but its main value will be to the isolated worker in the tropics as an introduction to one of the most fascinating chapters in parasitology. The section on the intestinal protozoa and the trypanosomes is masterly as is only to be expected from an author who has made such contribution to our knowledge of this branch of protozoology. Particular praise must be given to the admirable diagram illustrating the development of the different species of trypanosomes in the tsetse fly.

The only criticism one must make is that the arrangement of the diagrams is such that one's reading of the text is continually interrupted by having to refer to diagrams scattered throughout the book. In a subject whose study is based largely on visual memory, this is a serious handicap and might well be remedied in the next edition. A folding diagram of the most important parasites inserted at the end of the relevant chapter, and arranged that it can be studied whilst one is reading the text, would add considerably to the value of the book.

T. C. M.

THE RAT IN LABORATORY INVESTIGATION

Edited by EDMUND J. FARRIS, Ph.D., and JOHN G. GRIFFITH, JR., M.D. 2nd Edition. Pp. xvi + 542, with 177 figures and 2 plates. London: J. B. Lippincott. 1949. £5 5s. od.

This 2nd edition of a book first published in 1942 has not changed greatly in form or content. It is intended as a work of reference 'for all workers employing the rat in laboratory investigation.' For those who use the rat in their work merely because it is a convenient homunculus, and who are not interested in the rat as a living animal as a whole, it covers most of the ground. The laboratory techniques are treated extensively by authors who have long experience of the white rat, and in some fields, though the book is very uneven, there is considerable information on the results obtained.

Anyone interested in rats as rats, however, will find scant fare. The Wistar Institute, from which this book largely springs, knows more about *Rattus norvegicus* as a laboratory animal, grey or white, than any other place in the world. Yet even the name of the animal is ignored until page 502, where it occurs as *Mus*, and the enormous wealth of Wistar breeding experience is cramped to 17 pages.

As a new edition, only one chapter, that on drug dosages, has been entirely recast; perhaps five have been brought fully up to date, and nine have no

references later than 1941. There is a marked lack of uniformity in the bibliographies; four chapters have their new references simply tacked to the end of the old, in three cases with no dates. Some chapters use full references, some short; one even omits authors.

A reviewer must judge the completeness of a compendium on the subjects with which he is familiar. For Red Squill dosage we find only Winton (1927). Where are Munch, Silver and Horn (1929), O'Connor, Buck and Fellers (1935), Stoll and Renz (1942) and many more far more detailed than Winton's paper? For fleas '*Pulex*, *Xenopsylla*, *Ctenocephalides* and *Ceratophyllus* are common parasites of wild rats.' The species of three of these genera are never more than strays on rats. *Xenopsylla* contains the best-known plague fleas, but nowhere is plague even mentioned.

The book contains much information but has a number of shortcomings, not the least of which is its price.

R.B.F.

DIAGNOSTIC TESTS FOR INFANTS AND CHILDREN

By H. BEHRENDT, M.D. Pp. xvii + 529. London and New York: Interscience Publishers. 1949. £3.

As Dr. Behrendt says in his introduction, there has hitherto been no book of functional tests specially applicable to infancy and childhood, and he sets out to fulfil this need. He also appreciates the difficulty of what to put in and what to leave out. His book is four-fifths the biochemistry of these functional tests, while the remaining fifth contains sections on electrocardiography, electroencephalography, psychological testing and sundry other tests of function.

The bulk of the book on the application of biochemistry to clinical problems is excellent. Written for the practising clinician as well as the laboratory worker, each set of tests is preceded by a consideration of their application to children and followed by a paragraph on the interpretation of results. No attempt is made to give an exhaustive list of methods, and usually only one method is described simply and in a way which will appeal to British pathologists and research workers. The pediatric considerations and interpretation will be useful to physicians of all seniority and, in that the evaluation of the laboratory findings is critical and objective, it will help to give younger pediatricians a sense of proportion in their demands on laboratory time.

While such techniques as electroencephalography are clearly tests of function, and so fall within the defined ambit of the book, the reviewer found their inclusion faintly embarrassing, and he was in no position to appraise their worth. There is a section on rhesus serology which seems to be included unnecessarily and which will commend itself but little to English haematologists. Although the book is by an American author and presumably for an American public, one cannot help wondering when

the good news of the Coombs test in haematology will be brought across the Atlantic.

As is to be expected, the book is admirably produced in a size not too big to be useful on the working bench. References at the end of each section are adequate, although mostly not later than 1946, and, with the exception of the inevitable misspelling of the name Fanconi, few errors of proof correction were noticed. The authoritative presentation in a single volume of a great deal of knowledge not previously assembled will commend the book to all who practise pediatrics, and in work dealing so essentially with biochemical function Dr. Behrendt might reconsider, in the future editions which are bound to be called for, the advisability of omitting some of the sections which are concerned with special side-lines.

I.A.B.C.

RECENT ADVANCES IN CHEMOTHERAPY (Vol. 1)

By G. M. FINDLAY, C.B.E., Sc.D., M.D., F.R.C.P. 3rd edition. Pp. ix + 625. London: J. & A. Churchill, Ltd. 1950. 36s.

When Dr. Marshall Findlay produced the first edition of this book in 1930 the subject was covered in a relatively slim volume. The spectacular advances of the last 15 years now compel him to expand the work to four volumes. The first volume, now to hand, deals particularly with agents effective against protozoal and helminthic infestations. The second volume will be devoted to malaria; the third to spirochaetal, bacterial and virus infections, while the fourth will be devoted to general principles of chemotherapy and the use of antibiotics. Anyone possessing this set of manuals will clearly have a remarkably complete reference library on the whole subject.

The subjects covered in volume 1 are of interest not only to physicians practising in temperate climates, but are of particular value to those practising in the tropics and also to veterinarians. The section on phenothiazine illustrates the thorough manner in which the manual has been compiled. The action of this substance on intestinal worms was first discovered in 1938. The section in the book is 20 pages long, 120 references are quoted and details are given of its use, not only in man, but also in sheep, goats, cattle, pigs, horses, dogs, elephants and poultry. The medical reader will find full discussion of the pharmacological and therapeutic problems involved in such important diseases as bilharziasis, trypanosomiasis, amoebiasis and helminthic infections. The book will clearly find a place on the shelves of interested specialists, while the general reader will find in it detailed accounts of some fascinating therapeutic problems in tropical and comparative medicine. The value of the book would have been enhanced by a short introductory paragraph outlining briefly the pathology and clinical manifestations of the conditions of which the treatment is described in such detail. Very few