

Elementary Morphology and Physiology for Medical Students

A Guide for the First Year and a Stepping-stone to the Second. By Dr. J. H. Woodger. Third edition. Pp. xvi+522. (London: Oxford University Press, 1943.) 15s. net.

FIRST published in 1924 this text-book has now passed into its third edition, a fact which testifies to its usefulness. The book has been thoroughly revised and an additional chapter on insects, with *Periplaneta americana* chosen as the type, has been included. The revision has been well carried out on the whole, and this has involved some of the illustrations as well as the text, but it is a pity that the account of mitosis was not more completely rewritten and not simply left as the traditional account with a note that it requires modification in the light of recent observations.

The book differs from many of the text-books for medical students in that it assumes the use of other practical texts for the acquisition of factual knowledge; the author rightly observes that no book can replace personal observation. This does not imply that the treatment of morphological facts is omitted; they are indeed well treated, but the emphasis laid upon them is not so marked, and more attention is paid to what, for the want of a better term, may be called theoretical aspects. In order to do this satisfactorily the author has found it necessary to go outside the actual types laid down in the examination syllabus; for example, the interesting chapter on the primitive Amphibia and the reptiles, to give an idea of the history of the origin of the mammals. The result is that the reader will obtain a rather wider outlook on matters zoological. Perhaps one of the most important sections from this point of view is the chapter on theoretical biology and the methods of science, and the student would be well advised to read this carefully and consider its applications to all his work. The text and illustrations are well done, and the volume is deserving of commendation.

Ultra-fine Structure of Coals and Coke

Proceedings of a Conference held at the Royal Institution, London, June 24th and 25th, 1943, by the British Coal Utilisation Research Association. Pp. 366. (London: H. K. Lewis and Co., Ltd., 1944.) 25s. net.

A CONFERENCE on the structure of coal was held in London on June 24-25, 1943, and the present volume is an account of its proceedings. It comprises a set of scientific papers together with discussions of their contents and forms a valuable book of reference for those who study coals and cokes.

It can scarcely, however, be regarded as a book of reference for facts, since the general impression given is of the lack of knowledge about the subject. This is evidenced by the number of theories put forward by the various investigators and by the, at times, rather impatient tone of the discussion. While this state of mind is probably inevitable at the beginning of a new subject—as the scientific study of coal undoubtedly is—one feels that more receptive states of mind would be a happier augury for the future.

On the other hand, the promoters of research are to be congratulated on their breadth of vision in applying new research tools. These include X-ray diffraction, electron microscopy, the measurement of the heat evolved in wetting by certain organic liquids, the measurement of magnetic anisotropy and infra-red spectroscopy. While none of the methods

employed has given a complete answer to any of the problems raised, the integration of the results they are producing is bound to be informative. If, therefore, the present volume is regarded as a 'clearing house' for ideas it will have served its purpose. It would be interesting to see what a corresponding volume would contain if it were produced in, say, twenty years time.

H. L.

The Biotic Provinces of North America

By Lee R. Dice. Pp. viii+78. (Ann Arbor, Mich.: University of Michigan Press, 1943.) 1.75 dollars.

BY recognizing a series of floras associated with definite areas in North America in 1830, C. Pickering laid the foundation of the biogeography of that area. This was added to in 1843 by R. B. Hinds but established on more or less modern lines in 1859 by J. G. Cooper, who recognized a series of regions to which geographical names were applied. Since that time a great deal of attention has been paid to this topic both in the broad sense of dividing North America as a whole and in the more detailed analysis of limited areas from the points of view of the distribution of plants or animals or the effects of climate.

Lee R. Dice has made the most recent contribution to this subject in the book under review, in which twenty-nine biotic provinces are recognized and a map showing them is provided. By biotic province the author means a continuous area of reasonable size that is characterized by one or more ecological associations that differ sufficiently from those of adjacent provinces to constitute an entity. In the absence of some striking geographical barrier it is obvious that one province may pass over into the next and so the position of the actual dividing line may be a matter of convenience or opinion. In view of their different natures, plants can be utilized more readily for such a purpose than the more mobile or even migratory animals. The author, whose contributions to the zoogeography of vertebrates are well known, has considered fully the previous work and so far as possible utilized in his terminology names that have been applied already, with the necessary redefinitions. It would be unfair to leave the impression that the book is merely a résumé of the work of others. He has himself studied the ecological associations and conditions in nearly all the provinces, and it is in his critical evaluation of these factors that the main value of this well-produced volume lies.

The American Land

Its History and its Uses. By William R. Van Dersal. Pp. xvi+215+65 plates. (London, New York and Toronto: Oxford University Press, 1943.) 21s. 6d. net.

IF a book can be classed as good when it fulfils a pre-defined object, then this book is good. The author has been fully impressed by the wealth and greatness of his own country, and in simple but logical diction has painted a canvas of distinction. Corn, wheat, barley, fruit, cotton, vegetables and subsidiaries are all there in detail, which is surprising, considering the simple terms used; and a series of excellent photographs makes for a well-balanced whole. As learning increases, so man's ability to absorb the whole of it decreases. The consequent era of specialization has created gaps in human knowledge which appear impossible of closure, and in a sense these gaps may be accounted a serious detriment. The real value of this book is as a stepping-stone across the break.

D. CARPENTER.