

THREE TEXT-BOOKS IN BIOLOGY

The Principles of Biology. By J. I. HAMAKER.

Philadelphia, P. Blakiston's Son & Co. 1913. 8vo. Pp. x + 459. 267 illustrations.

Within the brief space of 438 pages, the author of this little volume has condensed a large amount of accurate information. As is stated in the preface, the book has been prepared as a substitute for the lecture notes of the ordinary pupil and of its superiority over such sources of information, or misinformation, there can be no doubt. After a very brief introduction, there follows over a hundred pages on plant biology and over three hundred on animals. Brief laboratory directions are included and a great variety of subjects are dealt with. A general review of plant physiology is followed by an account of the classes of plants and a consideration of their ecology. In a similar way the general physiology and morphology of animals is followed by a description of the classes of the animal kingdom. The whole account is concluded by an interesting section on general principles such as the structure of the cell, embryology, origin of species, adaptations, etc. In fact the list of headings at once indicates the scope and shortcomings of the book, for with so much to be covered and with so little space in which to do it, much of the treatment is necessarily abridged and inadequate. Yet as a condensation the volume has many points in its favor. The illustrations are often very good, particularly some of those taken from photographs of the original objects.

Elementary Biology. Plant, Animal, Human.

By J. E. PEABODY and A. E. HUNT. New York, The Macmillan Company, 1913. 8vo. Pp. xxi + 170 + 194 + 209. Over 300 illustrations.

This volume is avowedly intended for high schools and covers those parts of botany, zoology and a study of the human being that are most worthy of emphasis. The general structure and physiology of plants is first dealt with, then their relation to human welfare, and finally their classification. Under animal biology chapters are devoted to insects, birds, frogs, fishes, crayfishes and their allies, and the

one-celled animalcules. The remaining groups of the animal kingdom are briefly considered in a final chapter. The section on man is mostly concerned with his physiology. The chapter on stimulants and narcotics is particularly to be recommended in contrast to similar chapters in the older school physiologies. There is an appendix that contains many useful suggestions to the teacher and the volume is concluded by a good index. Most of the illustrations are excellent, but in Fig. 26 the size of the head in comparison with that of the viscera is quite misleading and Fig. 99 is unnecessarily crude. It is to be regretted that the three sections of which the book is composed should have been separately paged and their figures separately numbered. It is difficult to see how this can be anything but an inconvenience unless it is intended to allow the publisher to divide the book easily into its three separate parts.

An Introduction to Zoology. By R. LULHAM.

London, Macmillan and Co., Limited, 1913. 8vo. Pp. 457. 328 illustrations.

This volume is on most conservative lines even to the classical quotation preceding the introduction. It takes up in methodical fashion group after group of the invertebrates and thus includes an account of all the chief divisions of the lower animals. The author believes there is place for such a compact volume as this and that it should be read by those pupils who spend much of their time in the laboratory. The book is like so many that have been published in the last decade that it carries scarcely the air of novelty. In a reading text such as this it is unfortunate that so interesting and important a group as the chordates should have been intentionally omitted. For originality of treatment and an air of modernity this volume is much behind the other two already noticed.

G. H. PARKER

THE ATOMIC WEIGHT OF LEAD OF RADIO-ACTIVE ORIGIN

THE atomic weight of lead obtained from radioactive minerals has recently been studied