

Short Reviews

The Physics of Electron Tubes. By Dr. L. R. Koller. (International Series in Physics.) Pp. xiii+205. (New York and London: McGraw-Hill Book Co., Inc., 1934.) 18s. net.

ONE of the most useful functions of books or monographs on limited and somewhat specialised branches of scientific knowledge is the summary in a convenient and critical form of all the available information on the subject. This function is admirably fulfilled in Dr. Koller's monograph which, in the space of some sixty thousand words, presents a survey of electron emission and its application to the various types of valves and photoelectric cells in use to-day.

Beginning with the general theory of thermionics, the characteristics of the emission from various types of cathode are described, together with practical advice on the construction of such cathodes and their use in electron tubes. The deleterious action of gases and the methods for securing their removal are dealt with for the high vacuum type of valve; while two chapters are devoted to the gaseous discharge tube, the technical applications of which have been so widely developed in recent years. In a similar category may be placed the photoelectric cell, the fundamental physics of which are adequately covered. The whole book has the merit of not being overloaded with matter which is now more of historical than of fundamental scientific interest. In spite of this, however, the work gives a sense of completeness in reviewing the whole subject, and the tables of data and lists of references given at the end of each chapter will prove invaluable to the reader whose scientific or practical interest in the subject would necessitate his delving much deeper than is possible within the limits of a single volume. The general sense of this notice is thus thoroughly to recommend the book as a scientific and practical introduction to the subject covered by its title. The production of the book is excellent.

The Annual Register: a Review of Public Events at Home and Abroad for the Year 1933. Edited by Dr. M. Epstein. Pp. xii+312+184. (London, New York and Toronto: Longmans, Green and Co., Ltd., 1934.) 30s. net.

THE full summary of the past year's history again appears in this indispensable work of reference. Great Britain and the Empire naturally receive most attention and there are full accounts of the efforts in the cause of disarmament, and the hopes of the World Economic Conference. Then follow sections on the League of Nations and foreign history, with ample attention to events in Germany and the crisis in the United States. The second part of the volume as usual contains a chronicle of events, the year's obituary with admirable short biographies, and retrospects of literature,

art, drama, science, law and finance. Little of importance can be overlooked in these packed reviews of various branches of achievement. Science is dealt with in thirteen pages and is a useful record of the year's discoveries and publications. A full index completes the volume.

Adam's Ancestors: an Up-to-date Outline of what is known about the Origin of Man. By Dr. L. S. B. Leakey. Pp. xix+244+12 plates. (London: Methuen and Co., Ltd., 1934.) 7s. 6d. net.

It is no detraction from the merits of Dr. Leakey's book to say that it does not call for extended notice. The alternative would be to devote to controversial matters as much space as the author himself has given to their discussion. For his book is not merely an introductory study for the use of the layman—a purpose which it serves admirably—but it has also afforded the author the opportunity of laying before his fellow specialists his views on obscure and controversial matters—such questions, for example, as the dating and sequence of Mr. Reid Moir's pre-palæolithic cultures in East Anglia, the relation of the various cultures now distinguished in the early phases of the Old Stone Age, the classification of the deposits of late Tertiary or early Quaternary times, and so forth. Dr. Leakey's views are stated clearly and with due restraint.

Handbuch der anorganischen Chemie. In 4 Bänden. Herausgegeben von Prof. Dr. R. Abegg, Dr. Fr. Auerbach und Dr. I. Koppel. Band 4: *Die Elemente der achten Gruppe des periodischen Systems.* Teil 3: *Kobalt und seine Verbindungen.* Lief. 1. Herausgegeben von Dr. I. Koppel. Pp. xvi+626. (Leipzig: S. Hirzel, 1934.) 58 gold marks.

THIS instalment of Abegg's "Handbuch" includes sections on the atomic weight of cobalt, the cobalt atom, cobalt metal, cobaltous and cobaltic compounds, alloys and compounds of cobalt with metals and metalloids, cobalt-ammines, and a final short section on the colloid chemistry of cobalt and its compounds. It provides a monumental record of the properties of a very interesting element at a price which makes it more suitable for libraries than for individual purchasers.

Aids to Botany. By H. J. Bonham. (Students' Aid Series.) Pp. viii+221. (London: Baillière, Tindall and Cox, 1934.) 3s. 6d.

THIS book sets out to provide a revision course in botany for Higher School Certificate candidates and first-year university students reading for the intermediate science or pre-medical examinations in the subject. The scope of the book, however, is scarcely that of present-day requirements, and in a second edition many of the diagrams should be improved.