

the molal composition of the cryohydrates on page 116), but they are not of such importance as to lessen the value of the book.

W. BÖTTGER.

GRUNDZÜGE DER SIDEROLOGIE. VON HANNS FREIHERR VON JÜPTNER, Professor an der K. K. technischen Hochschule in Wien. Dritter Teil, zweite Abtheilung: Die hüttenmännischen Prozesse. 1904. Leipzig: Verlag von Arthur Felix. xi + 274 pp. Price, 9 marks.

That a book so comprehensive, so thorough, so modern in its views, should have been completed in so short a time is remarkable. All metallurgists and scientists interested in the properties of iron will welcome its completion, not only as a valuable reference book, but for the clear exposition of the whole subject. The application of the laws of physical chemistry to the iron and steel problems by one so competent to deal with the subject is a great step forward in industrial science.

The present volume completes the work on Siderologie, the previous parts of which have been reviewed in these columns. It treats of the thermal and chemical reactions of the blast-furnace, the production of malleable and puddled iron; and the various steel processes.

HENRY FAY.

THE BECQUEREL RAYS AND THE PROPERTIES OF RADIUM. BY HON. R. J. STRUTT, Fellow of Trinity College, Cambridge. London: Edward Arnold. 1904. 214 pp. Price, 8s. 6d. net.

In response to the general demand for information regarding radioactivity, a large number of treatises have appeared, but knowledge has increased so rapidly that many of these books now fail to adequately represent the present status of the subject. This work brings the subject up to about the middle of the year 1904. The author, who has himself made valuable contributions to our knowledge of radioactivity, has, in this case, written for the general reader. He has entirely avoided mathematical treatment and has assumed but the minimum of scientific attainment on the part of the reader. Nevertheless the book is thoroughly scientific and the statements are, in general, as rigid and accurate as non-mathematical language will allow. There are no references to the original literature. The first chapter deals with the electric discharge in high vacua and the properties of the cathode rays. The next six chapters treat of the most important phenomena of radioactive substances, including also the earth, air and common bodies. The final chapter considers the electrical theory

of the structure of the atom. One of the appendices gives explicit directions for the carrying out of a number of radioactivity experiments. The book is clear and well balanced, and the errors are few and unimportant. It can be warmly recommended to all who wish a good account of the present state of knowledge of the main facts and theories of radioactivity.

HERBERT N. MCCOY.

A TREATISE ON ROCKS, ROCK-WEATHERING AND SOILS. BY GEORGE P. MERRILL. 8vo., 411 pp. New York: The Macmillan Co. 1897; reprinted, 1904. Price, \$4.00.

This book is particularly important and interesting in its treatment of the degeneration of rocks and the formation of soils. The rock-forming minerals and the rocks themselves are discussed somewhat briefly, but with sufficient fullness to form a satisfactory introduction to the main topic. Rock-weathering, in its chemical and physical aspects, is very carefully treated, while the final products—the soils—are discussed in respect to their origin, chemical composition, and physical condition. The work is not merely one of compilation, for the author has frequently drawn conclusions from the results of his own analyses of material collected by himself.

H. L. WELLS.

ANNUAIRE POUR L'AN 1905. Published by the Bureau of Longitudes. Paris: Gauthier-Villars. 1904. 16 mo. 669 + 114 pp. Price, 1fr. 50c.

Beginning with the volume preceding this, the plan was adopted of publishing each alternate year in the annuaire, in addition to the usual almanac, physico-chemical data and geographic-statistical information. The annuaire before us is one of the off-year type, from the chemist's standpoint, and contains, therefore, nothing of especial interest to chemists.

J. W. R.

THE EXAMINATION OF WATERS AND WATER SUPPLIES. BY J. C. THRESH. Philadelphia: P. Blakiston's Son & Co. 460 pp. Price, \$4.00.

Directly upon opening the book the reader notes the stress laid upon the importance of what in this country we call the "sanitary survey." Intelligent comment upon this feature of water examination is very timely, considering how many people still believe that the data, whereupon to judge of the character of a water, are to be secured in the laboratory alone.

To illustrate the statements in the text, numerous instances are given of actual cases of pollution, and the examples taken