# Book Reviews

***Applied Inorganic Analysis: With Special Reference to the Analysis of Metals, Minerals, and Rocks.*** (Hillebrand and Lundell.) 2nd ed. Revised by G. E. F. Lundell, H. A. Bright, and J. I. Hoffman. New York: Wiley; London: Chapman and Hall, 1953. 1034 pp. Illus. $15.00.

Ever since its initial appearance in 1929, this book has occupied, both in this country and abroad, an almost unique place as a reference source for methods of analysis of inorganic substances. Primarily, this may be attributed to (1) the breadth of view adopted for methods as a whole and (2) the wealth of reliable detail included, both in the many discussions and in the numerous notes and references. The first edition, largely the work of W. F. Hillebrand, was completed by G. E. F. Lundell. As Dr. Lundell himself did not live to finish the second edition, his task has been completed by Bright and Hoffman.

To review such a work adequately is impossible in a small space. Perhaps one needs only state that the two junior authors have maintained the standard of meticulous and authoritative writing set by the original authors.

One is bound, of course, to compare the new edition with its predecessor. It is comforting, at least to the reviewer, to find that the pages of the two look alike, read alike, and are much alike. Closer examination, however, reveals a thousand places of change, some extensive, but many not. Altogether they represent the efforts of the revisers to modernize the book and yet keep the size within reasonable bounds.

Part I (203 pp.) covers rather general introductory material that is required reading for any serious graduate student of analytical chemistry or any practicing analyst.

Part II (590 pp.) takes up recommended methods for the determination of some 60 elements and the rare earths. Thus, for iron one finds 20 pages devoted to methods of dissolution of samples and separations, and to gravimetric, titrimetric, and colorimetric methods of measurement. A very noticeable change is the inclusion, or mention, of many colorimetric methods: often reference is made to others of the newer methods.

Part III (165 pp.) covers silicate rock analysis, Dr. Hillebrand's specialty, and Part IV (31 pp.) includes both refined and condensed methods for carbonate rock analysis.

The reviewer refrains from mentioning an occasional item of questionable usage or selection for fear of detracting in any way from the merits of this great work. For a decade he has awaited its appearance. Now he heartily recommends it. Books of such quality are indispensable to analysts, whether teachers or industrialists.

M. G. MELLON

*Department of Chemistry, Purdue University*

***Fresh-water Invertebrates of the United States.*** Robert W. Pennak. New York: Ronald Press, 1953. 769 pp. Illus. $15.00.

This is the first new, really comprehensive work on the fresh-water invertebrates in the United States to appear in many years. A comparison with the old standard works on fresh-water biology at once discloses that Professor Pennak has produced a more usable book. The drawings are large and generally superior to those in earlier works, the photographs are excellent, and the format is very pleasing.

In the introductory chapter the author discusses the origins of fresh-water fauna, fresh-water emigrants to the sea, major distinctions between marine and fresh-water invertebrates, a typical fresh-water habitat, dispersal and barriers, and food webs.

Thirty-six additional chapters deal with the groups of fresh-water invertebrates from Protozoa through Pelecypoda. Extended but not unbalanced treatment is accorded the Crustacea and Insecta. Keys are given for identification of species of smaller groups, especially those that are well known. For other groups, keys to genera are provided.

The book is far more than a taxonomic manual since a great deal of biological data for each group is presented, including such topics as general characteristics, locomotion, feeding and nutrition, behavior, ecology, and other pertinent matters. At the end of each part there is a list of important references.

In addition to suggestions on collecting and preparation mentioned in various chapters, there is a most helpful appendix dealing with field and laboratory apparatus, and although this could have been expanded somewhat, the subject has been treated in other works. There is a concluding section consisting of an annotated list of reagents and solutions. The 29-page index concludes the volume.

It is certain that the late Chauncey Juday, to whom the volume is dedicated, would have been most pleased with the book. In fact, the work ought to be of great value to nearly all biologists.

RALPH W. MACY

*Department of Biology, Reed College*

## Scientific Book Register

***Crystal Structures,*** Vol. III. Ralph W. G. Wyckoff. New York–London: Interscience, 1953. 3 chapters. Illus. $14.50. Suppl. 2 to Chap. XIII, $4.00.

***Organic Reactions,*** Vol. VII. Roger Adams, Ed. New York: Wiley; London: Chapman & Hall, 1953. 440 pp. $9.00.

***Succulent Plants: Other than Cacti.*** A. Bertrand; English text Ed., Vera Higgins. New York: Philosophical Library, 1953. 112 pp. Illus. + color plates. $4.75.

***Infinity: Beyond the Beyond the Beyond.*** Lillian R. Lieber. New York–Toronto: Rinehart, 1953. 359 pp. Illus. $5.00.