

brass; in volumetric analysis, calibration, preparation of half-normal hydrochloric acid and sodium hydroxide, soda ash, oxalic acid, iron (bichromate), chromium in chrome iron ore, iron (permanganate), pyrolusite, iodimetry, antimony in stibnite, bleaching powder, and silver (potassium thiocyanate).

The book closes with a very useful chapter on stoichiometry, containing typical problems, and a table of four place logarithms.

JAS. LEWIS HOWE.

TRAITÉ ÉLÉMENTAIRE DE CHIMIE. PAR. A. HALLER, Correspondant de l'Institut, Directeur de l'Institut Chimique de la Faculté des Sciences de Nancy, et P. Th. Muller, Maître de Conférences à l'Institut Chimique de la Faculté des Sciences de Nancy. Paris: Carré et Naud.

This work appears in two octavo volumes, the first of 336 pages, being devoted to inorganic chemistry, and the second, of 205 pages, to organic. It is a brief outline of general chemistry and presents nothing essentially new. Nevertheless, as an outline it is very complete, dealing with the entire subject in a clear and satisfactory manner, and including many topics which are usually discussed in larger text-books only. As an illustration of its scope it may be mentioned that attention is given to such subjects as argon, carborundum, and nickel carbonyl. In the volume upon organic chemistry the new nomenclature of carbon compounds is used, but this part of the work would be of greater interest to students if a systematic discussion of nomenclature were introduced. To American readers who wish to gain a knowledge of scientific French this work can be recommended. A chapter (19 pages) devoted to qualitative analysis will still further increase its value considered as a sort of introduction to French chemical literature.

FRANCIS C. PHILLIPS.

NOTES ON ASSAYING. BY PIERRE DE PEYSTER RICKETTS, E.M., PH.D. AND EDMUND H. MILLER, A.M., PH.D. viii + 311 pp. New York: John Wiley & Sons. Price, \$3.00.

The best part of this book is the part that does not treat of assaying; *viz.*, Parts III, IV, and V. These are devoted to chemical analyses, both quantitative and qualitative, blowpipe tests, laboratory extraction tests, and the usual tables, together with some new ones. Among the latter are tables of the characteristics of ores and of metals, and a table of solubilities. These features are good ones and make any laboratory handbook convenient and valuable.

Parts I and II, devoted to apparatus, reagents, and schemes for fire assays, contain so much useless and misleading information that the valuable portion is lost completely to the inexperienced reader. It would have been much better had the authors reduced these one hundred and thirty-nine pages to thirty.

HANDBOOK FOR THE BIO-CHEMICAL LABORATORY, INCLUDING METHODS OF PREPARATION AND NUMEROUS TESTS ARRANGED ALPHABETICALLY. BY JOHN A. MANDEL. New York: John Wiley & Sons. pp. 101. Price, \$1.50.

In this little book the author presents a very good compilation of laboratory processes for the production of a number of substances of physiological importance. Many of the descriptions of methods appear to be taken from well-known books of Drechsel, Halliburton, Gamgee, and others, but a distinct service has been rendered American students by bringing them together in compact form. Most of the processes described have stood the test of student practice and can be recommended as workable.

A list of common tests, employed mostly in laboratories of physiological chemistry, takes up about thirty-five pages of the book. Some of these tests are good, others could have been omitted without lessening the value of the book, as they are practically useless in investigation. In this part of the book several typographical errors have escaped the notice of the author. On page 76, for instance, "liquor of potassæ" should not have been overlooked, and on page 85, under the Molisch test "solution of a naphthol" should read "solution of α -naphthol." Other errors noticed are of minor importance and not misleading.

J. H. LONG.

BOOKS RECEIVED.

Tables for the Determination of Minerals by Physical Properties. By Persifer Frazer. xii + 163 pp. J. B. Lippincott Co. 1897. Price, \$1.50.

The Woolly-Aphis of the Apple. Bulletin No. 35. Agricultural Experiment Station of the State of Missouri. Columbia, Missouri. July, 1896. 26 pp.

An Introductory Course of Qualitative Chemical Analysis with Explanatory Notes and Stoichiometrical Problems. By Henry P. Talbot, Ph.D. 125 pp. 1897. New York: The Macmillan Co. Price, \$1.50.