

and germanium than to all the oxides of iron, and the elements molybdenum, tungsten, and uranium, with their compounds, occupy more space than calcium and its compounds in the several sections where they appear.

The book is clearly printed and quite free from typographical errors. The spelling recommended by the American Association for the Advancement of Science has been adopted only in part. Professor Howe, one of the committee on spelling and pronunciation, does not seem to have persuaded his colleague to accept the only rational orthography "sulfur."

Students using this volume will certainly not be misled and will become impressed with the importance of the Periodic Law.

H. CARRINGTON BOLTON.

COMMERCIAL ORGANIC ANALYSIS. VOL. II, PART I. BY ALFRED H. ALLEN, F.I.C., F.C.S., with revisions and addenda by the AUTHOR and HENRY LEFFMANN, M.A., M.D., Third Edition. Philadelphia: P. Blakiston's Son and Co. 8vo. 387 pp. Price \$3.50.

The second edition of Volume II of Mr. Allen's valuable work appeared in 1886 and revision at this time was badly needed owing to the rapid advances which had been made in organic analysis. On this account the revision is quite thorough, almost every page and paragraph having been changed to meet the modern requirements. It has also been deemed necessary to divide the volume into two parts to avoid an unwieldy bulk and we now have before us, Part I.

The author and reviser have been compelled to cooperate at such long range, and the demand for the book has been so pressing that Dr. Leffmann has seen fit to assume the responsibility for any statements that do not meet the approval of the author and for any errors which may have crept into the book.

The work is exceptionally well done in every respect and reflects great credit upon the author and the reviser.

This part of Vol. II treats of the fixed oils and fats, glycerine, nitroglycerine, dynamites and smokeless powders, wool fats, dégras, etc. It contains also a list of corrections of the few errors found in Vol. I. Part II, which is now in press, will treat of the hydrocarbons and their immediate derivatives.

The most important additions made to the subjects treated in the volume before us, are: The bromine thermal method, meth-

ods for determination of glycerol, acetyl number, tests for oxidation of oils, composition and official methods for the examination of dynamites and smokeless powders, dégras and cloth oils.

Mr. Allen has added to the work some valuable tables giving the sources, specific gravities, solidifying-points, saponification-equivalents, iodine absorption, general characteristics and chief applications of the principal fats, oils, and waxes of commercial or scientific interest.

WM. L. DUDLEY.

BOOKS RECEIVED.

Concentrated Feed Stuffs. Bulletin No. 56. Hatch Experiment Station of the Massachusetts Agricultural College. November, 1898. Amherst, Mass. : Carpenter & Morehouse. 24 pp.

Dietary Studies in Chicago in 1895 and 1896. Conducted with the Co-operation of Jane Addams and Caroline L. Hunt. Reported by W. O. Atwater and A. P. Bryant. Bulletin No. 55. U. S. Department of Agriculture, Office of Experiment Stations. Washington : Government Printing Office. 1898. 76 pp.

Michael Faraday : His Life and Work. By Silvanus P. Thompson, D.Sc., F.R.S. New York : The Macmillan Co. 1898. pp. ix + 308. Price, \$1.25.

Baking-powders on Sale in North Carolina. Bulletin No. 155. The North Carolina Agricultural Experiment Station, Raleigh, N. C. December 20, 1898. 8 pp.

The Rarer Metals and Their Alloys. By W. Chandler Roberts-Austen. From the Smithsonian Report for 1896, pages 497-515 (with Plates xxiii-xxvi). Washington : Government Printing Office. 1898.

Bulletins of the United States Geological Survey : No. 150.—The Educational Series of Rock Specimens Collected and Distributed by the United States Geological Survey. By J. S. Diller. 1898. 400 pp., 18 figures and 47 plates. No. 151.—The Lower Cretaceous Gryphæas of the Texas Region. By R. T. Hill and T. W. Vaughan. 1898. 66 pp. and 35 plates. No. 152.—A Catalogue of the Cretaceous and Tertiary Plants of North America. By F. H. Knowlton. 1898. 247 pp. No. 153.—A Bibliographic Index of North American Carboniferous Invertebrates. By Stuart Waller. 1898. 653 pp. No. 154.—A Gazetteer of Kansas. By Henry Gannett. 1898. 246 pp., 6 plates, and map of Kansas. No. 155.—Earthquakes in California in 1896 and 1897. By Charles D. Perrine. 1898. 46 pp. No. 156.—Bibliography and Index of North American Geology, Paleontology, Petrology, and Mineralogy for 1897. By Fred. B. Weeks. 1898. 130 pp. Washington : Government Printing Office.

Lighting by Acetylene.—Generators, Burners, and Electric Furnaces. By William E. Gibbs, M.E. Second Edition, Revised and Enlarged. New York : D. Van Nostrand Co. 1899. ix + 161 pp. Price, \$1.50.