

verification of quantitative laws: the appendix contains needful data for the students' use. In the selection of experiments the author provides for beginners, for those possessing slight familiarity with the subject, and for those who have had a satisfactory laboratory course in the preparatory school. The experiments are well chosen and graded, the directions are carefully stated, and the questions are plainly those of a painstaking teacher. The directions to the student regarding his preliminary preparation for each laboratory exercise are, in particular, excellent. The book is well printed and excellently bound.

H. P. TALBOT.

VOLUMETRIC ANALYSIS, SPECIALLY ADAPTED TO THE REQUIREMENTS OF STUDENTS ENTERING FOR THE ADVANCED PRACTICAL CHEMISTRY EXAMINATIONS OF THE SCIENCE AND ART DEPARTMENT. By JOHN B. COPPOCK. London: Whittaker & Co.; New York: Macmillan & Co. 12mo. pp. 92. Price, 50 cents.

The nature of this book is sufficiently indicated in the title. There is nothing contained in it worthy of special mention. It is chiefly notable for its omissions. Such books are of little value except to those who wish to pass an examination and have no further interest in the subject.

E. H.

BOOKS RECEIVED.

Leitfaden für den Unterricht in der anorganischen Chemie. Didaktisch bearbeitet von Dr. Joachim Sperber. Erster Teil. Zürich: Verlag von E. Speidel. 1899. 120 pp. Preis, M 2.40.

A Description of Some Chinese Vegetable Food Materials and their Nutritive and Economic Value. By Walter C. Blasdale. Bulletin No. 68, U. S. Department of Agriculture, Washington, D. C. 1899. 48 pp.

Preservatives in Canned Foods. Bulletin No. 165. 8 pp. Butter Adulteration. Bulletin No. 166. 12 pp. The North Carolina College of Agricultural and Mechanical Arts, Raleigh, N. C. 1899.

A Treatise on Crystallography. By W. J. Lewis, M.A. Cambridge: At the University Press. 1899. xii+612 pp. Price, 14 shillings net.

The Urine; and Clinical Chemistry of the Gastric Contents, the Common Poisons, and Milk. By J. W. Hollaud, M.D. Sixth Edition, Revised and Enlarged. Philadelphia: P. Blakiston's Son & Co. 1899. vii+124 pp. Price, \$1.00.

Index to the Literature of Zirconium. By A. C. Langmuir and Charles Baskerville. City of Washington: Published by the Smithsonian Institution. 1899. 8vo. 29 pp.

The Chemistry of Essential Oils and Artificial Perfumes. By Ernest J. Parry. London: Scott, Greenwood & Co.; New York: D. Van Nostrand Co. 1899. viii+411 pp. Price, \$5.00.

A System of Instruction in Qualitative Chemical Analysis. By Arthur H. Elliott and George A. Ferguson. Third Edition. 1899. Published by the Authors. 115-119 W. 68th St., N. Y. City. 155 pp. Price, \$1.50.

Traité de la Fabrication des Liqueurs et de la Distillation des Alcools. Par P. Duplais, aisé. Septième édition, entièrement refendue par Marcel Arpin et Ernest Portier. Tome Premier—Les Alcools. 613 pp. 8 fr. Tome Second. Les Liqueurs. 606 pp. 10 fr. 1900. Paris: Gauthier-Villars. Quai des Grands-Augustins, 55.

The Cost of Living as Modified by Sanitary Science. By Ellen H. Richards. New York: John Wiley & Sons. 1899. 121 pp.

Beginselen der Scheikunde. Door Dr. M. C. Schuyter. Antwerpen: Jos. Ishoven, Van Straelenstraat, 8. 1899. 109 pp. Price, \$1.50.

Agricultural Experiment Station of the University of Minnesota. Bulletin No. 63.—Miscellaneous Analyses, Composition of Tomatoes, Proteids of Wheat Flour. 50 pp. Bulletin No. 65.—Soil Investigation. 84 pp. 1899. St. Anthony Park, Minn.

The North Carolina Agricultural Experiment Station, Twenty-second Annual Report; Bulletin No. 152-163. Contents.—Reports of officials; poultry notes; vinegar adulteration; the adulteration of coffee and tea; baking powders; the adulteration of flour; mineraline; the fertilizer control for 1898; horticultural experiments during 1896; digestive experiments; drinking water; farming in North Carolina; rational stock feeding; the flora of North Carolina; preservatives in canned foods; butter; poultry experiments; field and forage experiments; feeding experiments and milk records. lii+462 pp. Raleigh, N. C.

Lexikon der Kohlenstoff-Verbindungen. Von M. M. Richter. Zweite Auflage der "Tabellen der Kohlenstoff-Verbindungen nach deren empirischer Zusammensetzung geordnet." Thirty parts. 2000 pp. Price, M. 1.80, per part.

Petroleum Series—Bulletin No. 3. The School of Mines, University of Wyoming, Laramie, Wyoming. 32 pp.

Water and Water Supplies. By John C. Thresh. Second revised edition. Philadelphia: P. Blakiston's Son & Co. 1900. xv+438 pp. Price, \$2.00.

Baking Powders. A treatise on the character, methods for the determination of the values, etc., with special reference to recent improvements in phosphate powders. By Charles A. Catlin. Published by the Rumford Chemical Works, Providence, R. I. 1899. 44 pp.

Water and Water Supplies. By John C. Thresh. Second revised edition. Philadelphia: P. Blakiston's Son & Co. 1900. xv+438 pp. Price, \$2.00.

Annuaire pour l'An 1900, publié par le Bureau des Longitudes. Avec des Notices scientifiques. 628 pp. Les Machines Génératrices de Courants Électriques. Par M. A. Cornu. 89 pp. Les nouveaux Gaz de l'Atmosphère. Par M. G. Lippmann. 15 pp. Les Travaux au Mont Blanc en 1899. Par M. J. Janssen. Sur l'Application de l'Aéronautique. Par M. J. Janssen. 2 pp. Discours prononcés à l'Inauguration de la Statue de Félix Tisserand. 19 pp. Liste des Membres qui Composent le Bureau des Longitudes. 37 pp. Paris: Gauthier-Villars, quai des Grands-Augustins, 55. In one volume. Price, 1 fr. 50 c.

The Kinetic Theory of Gases. Elementary treatise with mathematical appendices. By Dr. Oskar Emil Meyer. Translated from the second revised edition by Robert E. Baynes. New York: Longmans, Green & Co. 1899. xvi + 472 pp. \$4.00.

Elementary Chemistry for High Schools and Academies. By Albert L. Arey, C. E. New York: The Macmillan Co. 1899. xi + 271 pp. Price, 90 cents.

Introduction to Physical Chemistry. By James S. Walker, D.Sc., Ph.D. London & New York: The Macmillan Co. 1899. x + 335 pp. Price, \$2.50.

Fifth Annual Report of the Montana Agricultural Experiment Station (Bulletin No. 20). 34 pp. Sheep Feeding (Bulletin No. 2). 13 pp. Agricultural Experiment Station, Bozeman, Montana.

Optical Activity and Chemical Composition. By Dr. H. Landolt, Professor of Chemistry in the University of Berlin. Translated with the Author's permission by John McCrae, Ph.D. New York: The Macmillan Co. 1899. xi + 158 pp.

Dietary Studies of Negroes in Eastern Virginia in 1897 and 1898. By H. B. Frissell and Isabel Bevier. Bulletin No. 71, U. S. Department of Agriculture, Washington, D. C.

The Theory of Electrolytic Dissociation and Some of its Applications. By Harry C. Jones, Associate in Physical Chemistry in Johns Hopkins University. New York: The Macmillan Company. 1900. xii + 289 pp. Price, \$1.60.

The Slate Belt of Eastern New York and Western Vermont. By T. Nelson Dale. Extract from the Nineteenth Annual Report of the Survey, 1897-98. Part III.—Economic Geology. Washington: Government Printing Office. 1899. 155 pp.

Sheep Feeding. By J. H. Stewart and Horace Atwood. Bulletin No. 61. West Virginia Agricultural Experiment Station, Morgantown, W. Va. 12 pp.

A Study of the Effect of Incandescent Gas-light on Plant Growth. By L. C. Corbett. West Virginia Agricultural Experiment Station, Morgantown, W. Va. 24 pp., with numerous plates.

Commercial Feeding Stuffs in the Connecticut Market. Connecticut

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Victor von Richter's Organic Chemistry or Chemistry of the Carbon Compounds. Edited by Prof. R. Anschütz (assisted by Dr. G. Schroeter). Authorized translation by Edgar F. Smith, Professor of Chemistry, University of Pennsylvania. Third American, from the Eighth German Edition. Volume II.—Carbocyclic and Heterocyclic Series. Philadelphia: P. Blakiston's Son & Co. 1900. xvi + 671 pp. Price, \$3.00.

The Elms and Their Diseases.—Bulletin No. 84. 25 pp. with plates. Commercial Fertilizers.—Bulletin No. 85. 53 pp. Kentucky Agricultural Experiment Station, Lexington, Ky.

Annuaire de l'Observatoire Municipal de Paris, dit Observatoire de Montsouris, pour l'Année 1900. (Analyse et Travaux de 1898.) Météorologie—Chimie—Micrographie. Applications à l'Hygiène. Paris: Gauthier-Villars. xii + 578 pp. Price, 2 fr.

A Pocket-book for Chemists, Chemical Manufacturers, Metallurgists, Dyers, Distillers, Brewers, Sugar Refiners, Photographers, Students, etc. By Thomas Bayley. Seventh Edition, revised and enlarged. London: E. & F. N. Spon; New York: Spon & Chamberlain. 1900. 559 pp. Price, \$2.00.

Volumetric Analysis. Specially adapted to the requirements of students entering for the advanced practical chemistry examinations of the science and art department; also the intermediate science and preliminary scientific examinations of the University of London. By John B. Coppock, F.C.S., Inter. B.Sc. (Lond.). London: Whittaker & Co.; New York: The Macmillan Co. 1899. 92 pp. Price, 50 cents.

Analyses of Commercial Fertilizers and Paris Green. Bulletin of the Agricultural Experiment Station of the Louisiana State University and A. & M. College, Second Series, No. 58. 90 pp.

The Work of the Agricultural Experiment Stations on Tobacco. Abstracted by J. I. Schulte, with introduction and comments by Milton Whitney. U. S. Department of Agriculture, Report No. 63. Washington, D. C. 1900. 48 pp.

ERRATUM.

In the number for February, 1900, p. 139 line 10, for

“ $[(\text{CH}_3)_3\text{NH}]_2\text{TeCl}_6$ ” read “ $[(\text{CH}_3)_3\text{NH}] \text{TeCl}_6$.”