

the proposing of a good subject for research is often as difficult and as valuable as its experimental prosecution.

Also worthy of mention and commendation is the sharpness of definition of certain terms too commonly used in rather a loose sense. To be fair, however, it must be added that the author does not always show a just and impartial appreciation of experimental facts; if he can't give data a clear explanation in the light of his theory, then, he too often concludes, the data themselves must be in error. This is done, in one case, at least, where the author has not fully grasped the experimental facts.

The book, in places, is rather tedious reading, principally for this reason. The author often enters into the minutest details right in connection with general discussions and conclusions, which is somewhat bewildering and confusing. This might have been avoided, perhaps, by a more liberal use of foot-notes. There are also certain notions original with the author and occupying rather a prominent position throughout the work that do not seem to require so much emphasis, especially as they have not been adopted generally; thus the distinction between solvent and "solute," between "fusion" and "solubility" curves is hardly scientific or necessary.

Although the suppression of mathematics in the book may make it more acceptable to those chemists who are lacking in mathematical training, yet a certain amount of mathematical treatment of some points would have rendered them more intelligible as well as more in keeping with the historical development of the subject.

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BOOKS RECEIVED.

An Electrolytic Method of Determining the Temperature of Soils. By Milton Whitney and Lyman J. Briggs. Bulletin No. 7, Division of Soils, U. S. Department of Agriculture, Washington, D. C. 15 pp.

An Electrolytic Method of Determining the Soluble Salt Content of Soils, with Some Results of Investigations on the Effect of Water and Soluble Salts on the Electrical Resistance of Soils. By Milton Whitney and Thos. H. Means. Bulletin No. 8. Division of Soils, U. S. Department of Agriculture, Washington, D. C. 30 pp.

Bulletin of the United States Geological Survey, No. 148. By F. W. Clarke and W. F. Hillebrand. U. S. Geological Survey, Washington, D. C. 306 pp. A Discussion of Methods of Analysis; Analyses of Various Rocks, Igneous and Crystalline, Stony Meteorites, Meteoric Iron, Sandstones and Cherts, Carbonate Rocks, Slates and Shales, Clays, Soils, etc., arranged and tabulated by F. W. Clarke.

Fertilizer Analyses of the Fertilizer Control. Special Bulletin No. 47. The North Carolina Agricultural Experiment Station, Raleigh, N. C., June 26, 1897. 8 pp.

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Ninth Biennial Report of the Director of the North Carolina Experiment Station, for the Two Years ending January, 1897. H. B. Battle, Director, Raleigh, N. C. 157 pp.

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Geological Survey of Canada. G. W. Dawson, Director. Annual Report (New Series) with numerous maps. Vol. viii. 1895. Ottawa, Canada. xii + 154A + 120D + 184J + 387L + 59R + 103S pp. Price (with maps) \$1.00.

The Cost of Plant Food in Connecticut, Spring Months of 1897. Bulletin No. 124. Connecticut Agricultural Experiment Station, New Haven, Conn. June, 1897. 11 pp.

The Elements of Electro-Chemistry Treated Experimentally. By Dr. Robert Lüpke. Translated from the second revised and enlarged edition by M. M. Pattison Muir. London: H. Grevel & Co. Philadelphia: J. B. Lippincott Co. 1897. xv + 223 pp. 54 figures in the text. Price \$2.50.

The Composition of Prepared Cereal Foods. By E. E. Slosson. Bulletin No. 33. June, 1897. 14 pp. Wyoming Experiment Station, Laramie, Wyoming.

Incompatibilities in Prescriptions. For Students in Pharmacy and Medicine and Practicing Pharmacists and Physicians. By Edsel A. Ruddiman, Ph.D., M.D. 8vo., cloth. v + 264 pp. 1897. New York: John Wiley & Sons. Price \$2.00.

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Elements of Chemistry. By Rufus P. Williams. viii + 412 pp. Boston: Ginn & Co. 1897. Price \$1.20.

Water and Public Health. The Relative Purity of Waters from Different Sources. By James H. Fuertes. x + 75 pp. 1897. New York: John Wiley & Sons. Price \$1.50.

Exercises in Practical Physiology. By Augustus D. Waller. Part III. Physiology of the Nervous System. Electro-Physiology. 91 pp. 1897. New York: Longmans, Green & Co. Price 90 cents.