begun by the author in 1888, of preparing a 'Select Bibliography of Chemistry,' he has now in preparation a fourth volume, which will afford him an opportunity of supplying omissions in the three already published.

JAS. LEWIS HOWE.
WASHINGTON AND LEE UNIVERSITY,
LEXINGTON, VA.

*Elementary Organic Analysis, The Determination of Carbon and Hydrogen.* By FRANCIS GANO BENEDICT, PH.D., Instructor in Chemistry in Wesleyan University. Easton, Pa., The Chemical Publishing Co. 1900. 8vo. Pp. 86. Price $1.00.

The author states in his preface, "Perhaps no analytical operation is at once so fundamentally important and exasperatingly vexatious as the organic combustion. Notwithstanding this fact, save for the meager statements in one or two of the larger books on organic chemistry, no description of the process of the determination of carbon and hydrogen is accessible to most students. As a rule a knowledge of the operation is chiefly obtained by word of mouth.

"This little manual is presented in the hope that the descriptions of processes here recorded will aid in making this method of analysis more familiar and more satisfactory."

The author states that he has had an experience with over two thousand combustions and that in this book he has embodied such modifications of the general method as have been suggested by that experience.

Some idea of the book will be obtained from the following table of contents: Introduction, preparation of oxygen, compressed oxygen, gasometers or gas holders, air, purifying apparatus, rubber tubing and stoppers, combustion furnaces, combustion tubes, oxidizing agents, filling the combustion tube, boats, absorbing agents, absorbing apparatus, cleaning and weighing absorbing apparatus, weight of material used, burning out the combustion tube, general process of the combustion, combustion of nitrogenous substances, combustion of bodies containing the halogens, combustion of bodies containing sulphur, combustion of bodies containing the alkali metals, combustion of difficultly combustible bodies, combustion of liquids and volatile bodies, combustion of explosive bodies, calculation of results, appendix and index.

The book is well printed and of convenient size for laboratory use. For use in teaching students of chemistry the methods of combustion analysis it will be of great value, and even the experienced chemist will find in it many suggestions and new ideas.

W. R. ORNDORFF.

BOOKS RECEIVED.

*Cyclopedia of American Horticulture.* L. H. BAILEY, assisted by WILHELM MILLER. Vol. III., N-Q. New York and London, The Macmillan Company. 1901. Pp. xv + 1055-1486. $5.

*School Geography, Europe and other Continents with Review of North America.* RALPH S. TARR and FRANK M. MCMURRY. New York, The Macmillan Company. 1901. Third book. Pp. xx + 574.

*The Limits of Evolution and other Essays illustrating the Metaphysical Theory of Personal Idealism.* G. H. HOWISON. New York and London, The Macmillan Company. 1901. Pp. xxxv + 396. $1.60.

## SCIENTIFIC JOURNALS AND ARTICLES.

*The American Naturalist* for April has as its first article a paper by B. Arthur Bensley, on 'A Theory of the Origin and Evolution of the Australian Marsupialia.' The adaptive modification of their teeth and feet are compared with those of placental mammals, the author concluding that the marsupials were differentiated from Didelphyd forms, but adding no evidence to show from what direction they entered Australia. R. M. Strong presents in detail 'A Quantitative Study of Variation in the Smaller North American Shrikes,' and Frank Russell describes 'A New Instrument for Measuring Torsion' in the long bones of the human skeleton, but applicable to other purposes. The valuable series of 'Synopses of North-American Invertebrates' is resumed, the present paper, the fourteenth of the series, by C. W. Hargitt, being devoted to 'The Hydromedusæ, Part I.' The number contains the quarterly record of gifts to institutions, and the appointments, retirements and deaths of scientific workers.

*The Journal of Physical Chemistry*, March, 1901, 'On the Dielectric Constants of Nitrils,' by Herman Schlundt. The fact that solutions