

future of which is as promising as that of any department of experimental physiology and medicine. His work is a foremost laboratory guide in a subject demanding a place in the curriculum of every medical school which undertakes to instruct its students in the technic of modern scientific medicine.

E. E. SMITH.

ELECTROLYSIS AND ELECTROSYNTHESIS OF ORGANIC COMPOUNDS. BY DR. WALTHER LÖB, Privatdocent in the University of Bonn. Translated by H. W. F. LORENZ, A.M., Ph.D., Graduate of the University of Berlin. New York: John Wiley and Sons. Price, \$1.00.

This unpretentious little volume gives, in the space of about 100 pages, what may be fairly termed the substance of all that has been accomplished by the electric current in the domain of organic chemistry. The most recent views in regard to reductions and oxidations are given in sufficient detail to satisfy the inquiring student. The first half of the book considers the aliphatic compounds, the second half the aromatic derivatives. It must be remarked, however, that the completeness of such works as those of Tommasi and of Peters is not found here, although the essentials and the latest results are everywhere present. It is a most suggestive compilation and the student, eager to take up problems in this comparatively new field of research, will find hints upon almost every page as to lines of investigation, which would amply repay his experimental inquiries. Not as a criticism, but simply to arrest an erroneous notion the reviewer would call attention to a statement made on page 18, relating to the electrolysis of metallic acetates. It is there said of uranium acetate that from its solution the current separates the metal, which passes to the anode. This is wrong. Metallic uranium cannot be obtained in this way. It is the hydrate which is deposited at the cathode. Again, on page 25 occurs the sentence "on this property depends the great importance of oxalic acid in quantitative electrolytic analysis, into which it has been introduced by Classen." Would it not be just as well to credit Parodi and Mascazzini with having first applied oxalic acid in this way? They first used this acid in the electrodeposition of iron, after which Classen extended its use by the elaboration of methods for the electrolytic determination of other metals. The closing paragraph of the book calls attention to the "important

points which promise to be of great assistance . . . in connection with future research in the field of organic chemistry ; . . . the oxidation reactions which occur in the electrolysis of acids of the aliphatic series, the reduction reactions in the case of the aromatic series, and lastly the reactions involving substitutions. . . . Of these the first is apparently the most promising." The translator has performed his task with great credit to himself.

The reviewer has read the book with pleasure and profit, and is confident that it will be regarded as a welcome addition to our rapidly increasing electrolytic literature.

EDGAR F. SMITH.

MICHAEL FARADAY, HIS LIFE AND WORK. BY SILVANUS P. THOMPSON. New York: The Macmillan Co. 1898. xii + 308 pp. 12mo. Price, \$1.25.

The "Century Science Series", of which this volume forms a part, has already issued biographies of Pasteur, Davy, Dalton, and Liebig, as well as of men of science distinguished in other departments than chemistry ; but no one of those known to the writer is so charmingly written as that under review. Professor Thompson, it is true, had an uncommon man to portray, simple in his nature and grand in his achievements, and the biographer has most successfully depicted both characteristics. Michael Faraday's life is attractively described by one who sympathizes thoroughly with the gentle, lovable man, and at the same time his scientific work is skilfully reviewed by one well qualified by his own attainments to understand and appreciate it.

In his preface Dr. Thompson refers to the previous biographies of Faraday by Bence Jones, Tyndall and Gladstone, each having special merits, and modestly says "there seems room for another account of the life and labours of the man whose influence upon the century in which he lived was so great", and this volume justifies the remark.

If there be such a thing as the "spontaneous generation" of genius surely Faraday affords a striking example ; the son of a working blacksmith and a farmer's daughter, born in humble circumstances in a village near London, receiving very little schooling, serving seven years of apprenticeship to a bookbinder, reaching the age of twenty before he had an opportunity of attending a single lecture on natural philosophy, these condi-