Henri Poincaré. Biographie, Bibliographie analytique des Ecrits. Par ERNEST LEBON. Paris, Gauthier-Villars, 1909. viii + 80 pp.

THIS little volume is the first of a series which M. Lebon proposes to publish on the "Savants du Jour." The idea of giving to the public a biographical and bibliographical record concerning the various eminent scholars of the present day is novel and has much to recommend it. The reading of the present volume cannot but be an inspiration to the rising generation of mathematicians. The author, or more accurately the compiler (the book contains nothing from the pen of M. Lebon himself), has here brought together from various sources a series of articles and addresses relating to Poincaré. The contents are divided into seven sections relating respectively to biography, pure mathematics, analytic and celestial mechanics, mathematical physics, philosophy of science, necrology, and miscellaneous publications.

The section on Biography contains a part of the address delivered by M. Frédéric Masson, director of the Académie Française, at the time (January 28, 1909) when Poincaré was received as a member of the forty immortals. In fourteen pages we are given a comprehensive sketch of his life. Born at Nancy, April 29, 1854, he received his doctorate from the University of Paris in 1879. His rise to fame was meteoric. During the years 1879–1881 he published in the *Comptes Rendus* his epoch-making results on the uniformization of algebraic curves and the solution of linear differential equations which at the early age of 27 gave him a recognized position in the front rank of mathematicians. In 1885 he received from the Académie des Sciences the Prix Poncelet for the "ensemble de ses travaux mathématiques." The readers of the BULLETIN who wish to read in more detail of his life and work may be referred to a recent number of the *Popular Science Monthly* (September, 1909) which contains a translation of the address of M. Masson. This address is followed in the volume under review by a list covering four and a half pages of degrees, titles, prizes, membership in scientific bodies, etc.

The second Section is devoted to his work in pure mathematics. The text is an extract from the report by M. G. Rados on the Prix Bolyai (awarded to Poincaré by the Hungarian Academy of Sciences, April 18, 1905). This is followed by a list of publications in pure mathematics containing 146

titles. The text of the third Section is an extract from the address delivered by Professor G. H. Darwin (February 9, 1909) in presenting to Poincaré the gold medal of the Royal Astronomical Society of London. It is a brief review of his contributions to analytic and celestial mechanics. This is followed by a list of 85 titles of his publications in this field. The fourth Section opens with another extract from the report of M. Rados relating to Poincaré's contributions to mathematical physics. The list of his writings in this domain comprises 78 titles. The text of the fifth Section is a review by M. Emile Faguet of Poincaré's most recent book on the philosophy of science entitled "Science et Méthode." His writings in this field comprise 51 titles. His book "Science and Hypothesis" has been translated into five foreign languages. The Section devoted to necrology simply gives a list of 17 addresses and notices by Poincaré, on the life and work of Laguerre, Halphen, Tisserand, Weierstrass, Cornu, Berthelot, Kelvin, etc. The last section gives a list of 51 titles on miscellaneous subjects.

Aside from the inspiration to be derived from a reading of the text of this volume, the complete list of Poincaré's writings is valuable for reference. The volume also contains a fine heliogravure portrait of Poincaré.

<div style="text-align: right">J. W. YOUNG.</div>

Des Notations Mathématiques, Énumération, Choix et Usage. Par DÉSIRE ANDRÉ. Paris, Gauthier-Villars, 1909. xviii + 501 pp.

THE present work is practically confined, as regards both subject matter and method of treatment, to the needs of teachers of secondary mathematics. The paucity of historical references and the prolix treatment of many of the subjects tend to detract from its usefulness as a work of reference, and its general method of treatment seems better suited to the wants of those who are interested in seeing self-evident things stated in a clear and attractive form than of those who are seeking abstruse information. The perusal of such a work during periods of relaxation may, however, tend to make matters of secondary importance appear more attractive to the mathematician and thus it may lead to a keener appreciation of the entire mathematical structure.

The number of historical references is not only small but some of those which are given are apt to mislead the reader.