

SHORTER NOTICES

Moderna Teoria delle Funzioni di Variabile Reale. Parte Prima. By G. Vitali and G. Sansone. Monografie di Matematica Applicata per cura del Consiglio Nazionale delle Ricerche. Bologna, Zanichelli, 1935. viii+183 pp.

This excellent booklet is the first volume of a new series of monographs on applied mathematics published under the auspices of the Italian National Research Council. It is based upon a posthumous manuscript of Vitali, edited and completed by Sansone. It gives a remarkably clear and condensed introduction to the theory of functions of a real variable. In five chapters of about 33 pages each are presented the basic facts from the theories of sets and cardinal numbers, measure, analysis of functions [measurable functions, classes of Baire, bounded variation, absolute continuity], integration, and differentiation. As is to be expected in view of the prominent role played by Vitali in the development of modern analysis, the presentation is original in many places. The typographical makeup is pleasing and of high order. A minor point of notation could perhaps be mentioned. In a modern treatment one does expect that the variable of integration and the upper limit should not be denoted by the same letter; the authors fail to observe this desideratum.

Those preparing to give a course on real variables will find this book highly stimulating and useful. In the hope that the further publications in this series will come up to the high standard set by the first one the mathematical world will eagerly await successors to this monograph. A treatise by Sansone on expansions in orthogonal series seems to be the next in order.

EINAR HILLE

The Dilemma of Modern Physics. By D. E. Richmond. New York, G. P. Putnam's Sons, 1935. xiii+120 pp.

This small book attempts to give in a non-technical form some idea of the revolution which has taken place during the past quarter century in the domain of physics. The following chapter headings give a good idea of the matters treated: *The classical physics; The quantum theory; New developments; The dilemma* (that is, waves versus particles); *The principle of uncertainty; On meaning; Causality and probability.* In his preface the author explains that the book arose from a series of semi-popular lectures on the modern quantum theory. It is the present reviewer's opinion that the book itself is a good instance of what a semi-popular book should be.

F. D. MURNAGHAN

Aristotle's Theory of the Infinite. By Abraham Edel. Privately printed, New York, 1934. For sale at The Journal of Philosophy, Inc., 515 W. 116th Street, New York City. Price \$1.00. 102 pages.

Here we have a careful inquiry into Aristotle's theory of the infinite in which the principal emphasis lies in the attempt to understand how Aristotle