Conformal Representation. By Leo Lewent. Translated by R. Jones and D. H. Williams. London, Methuen. viii+146 pp.

This book is one of the German series on science edited by Dr. E. Jahnke. It is a brief and, for the most part, elementary treatment of conformal representation in the theory of functions of a complex variable. It contains five chapters. The titles of the first three are I, The geometrical representation of complex quantities, II, The Cauchy-Riemann differential equation and conformal representation, III, Special transformations. The first two chapters, covering 22 pages, give the classical treatment of the subjects named in their titles. The third chapter contains treatments of the linear transformation, stereographic projection, inversion, Riemann surfaces, and detailed studies of the conformal representation of the interior of a circle on various special areas. This chapter seems to us the most valuable part of the book. We believe it might be of great use to the student beginning the study of functions of a complex variable. Chapter IV, Theorems and methods for the treatment of more general problems, covering 26 pages, is intended to give the student some insight into the more difficult problems of conformal representation. In our opinion, it does not well accomplish its purpose. The subject matter is not very clearly explained. The last chapter, V, Conformal representation of a circular area on the interior of a convex polygon, covering 25 pages, was written by W. Blaschke after Dr. Lewent's death. This chapter, intended as an application of the methods described in Chapter IV, is admirably written, better than any other part of the book.

The translation as a whole is satisfactory, though occasionally lapsing into unintelligible Germanisms. We think the book would be improved by an index. One fault of the book is that new terms introduced are frequently not defined but have attention drawn to them only by printing them in italics. We have noticed only a couple of typographical errors and those of little importance.

J. K. WHITTEMORE

Synthetische Zahlentheorie. By Rudolf Fueter. Göschens Lehrbücherei, Second revised edition. Berlin, Walter de Gruyter, 1925. viii+277 pp. Price 10 marks unbound, 12 marks bound.

Since this is a second edition of a favorably known book, published in 1917 and reviewed in the JAHRBUCH ÜBER DIE FORTSCHRITTE DER MATHEMATIK for that year, it seems necessary to note here only the changes made in the revision. These affect mainly the following three points: The part relating to the theory of exponential functions was entirely rewritten so as to include the entire theory as regards simply periodic functions, with a view to preparing the beginner for the theory of doubly periodic functions and complex multiplication; the present edition contains a complete existence proof of the fundamental units of a domain of rationality while the earlier edition assumed in this connection an important theorem proved in the well known work of Dirichlet-Dedekind; finally, there is found in the present edition a proof of the general theorem relating to cubic reciprocity, so that this case

is now treated here as completely as that relating to quadratic reciprocity. It is hoped that these changes and many slight improvements, involving together an increase of about six pages in the size of the book, will tend to increase the usefulness of this popular introduction to the modern theory of numbers.

G. A. MILLER

Vorlesungen zur Einführung in die Relativitätstheorie. By Ernst Richard Neumann. Jena, Fischer, 1922. viii+228 pp. M 4.50.

This volume is a very good exposition of the restricted and general theories of relativity, based upon lectures given by the author at Marburg in 1920. It contains an unfortunately brief (four page) appendix on Weyl's work, which prompts one to suggest that in a possible second edition it might be advisable to introduce a discussion of more recent progress in this field.

C. N. REYNOLDS, JR.

La Relativité Générale, Théorie des Axes Mobiles. By Gabriel Joly. Paris, Spes, 1925. 64 pp. 10 fr.

This pamphlet is a sequel to an earlier pamphlet by M. Joly entitled *Les Erreurs Philosophiques de M. Einstein, Etude Directe de la Relavitité* (reviewed by Professor A. A. Bennett in this BULLETIN, vol. 31, p. 567) in which he continues his attempt to reinterpret the theory of relativity while clinging to classical mechanics. It is a fair example of mechanical "fundamentalism."

C. N. REYNOLDS, JR.

Die Determinanten. By E. Netto. Leipzig, Teubner. 2d Edition. vi+122 pp. 1925.

This second edition differs little from the first (reviewed in this BULLETIN, (2), vol. 17 (1910–11), p. 547). The changes in text are minor save that the twelfth chapter of the first edition, on *Functional determinants*, has been omitted in this edition. This is no improvement. The typography is not as clear as in the first edition. It is quite misleading to put on the title page "verbesserte Auflage."

J. B. SHAW