Finally, let us say that there can be no doubt that Forsyth has rendered his colleagues a distinct service in adding this book to his already long list of useful publications. It will be of definite value to a large number of persons interested in the theory of functions of complex variables.
R. D. Carmichael.

## SHORTER NOTICES.

The Geometrical Lectures of Isaac Barrow. Translated, with notes and proofs, by J. M. Child, B.A. (Cantab.), B.Sc. (Lond.). The Open Court Publishing Company, Chicago, 1916. xiv+218 pp.
"Isaac Barrow was the first inventor of the Infinitesimal Calculus; Newton got the main idea of it from Barrow by personal communication; and Leibniz also was in some measure indebted to Barrow's work, obtaining confirmation of his own original ideas, and suggestions for their further development, from the copy of Barrow's book that he purchased in 1673."
"The above is the ultimate conclusion that I have arrived at, as the result of six months' close study of a single book, my first essay in historical research. By the 'Infinitesimal Calculus,' I intend 'a complete set of standard forms for both the differential and integral sections of the subject, together with rules for their combination, such as for a product, a quotient, or a power of a function; and also a recognition and demonstration of the fact that differentiation and integration are inverse operations.'"

These are the opening paragraphs of the preface to this edition of Barrow's Lectures. While the rest of the book does perhaps not justify the claims of the preface, it furnishes a very welcome addition to the generally available information concerning Barrow. It presents, in abridged form, a translation by Mr. Child of the "Lectiones Geometricæ" of 1670, of which a first English translation was published by Edmond Stone in 1735. Numerous notes, bearing upon Mr. Child's thesis, are scattered throughout the text, proofs have been added in a number of places, and there is an introduction of

