

SHORTER NOTICES

Einführung in die Determinantentheorie einschliesslich der Fredholmschen Determinanten. By Gerhard Kowalewski. Berlin, Walter de Gruyter and Company, 1925. Second, abridged edition. iii+304 pages.

This book has gained recognition as a classic in its field. The first edition appeared in 1909 and was reviewed chapter by chapter in considerable detail by Bôcher, in this BULLETIN, (vol. 17 (1910) pp. 120-140), with high commendation. It is to be deplored that for certain reasons of the publishers, an abridged, instead of an enlarged, edition was found necessary. The thirteenth chapter on elementary divisors, the sixteenth chapter on infinite normal determinants, and the nineteenth chapter on the characteristic functions of a real, symmetric kernel, found in the first edition, have been entirely eliminated. The chapter on the Fredholm theory has been cut down and at numerous points throughout the book explanatory material has been omitted. These changes other than the loss by omission of useful material have in no way detracted from the usefulness of this excellent treatise.

H. J. ETTLINGER

Lezioni di Calcolo Infinitesimale. By Ernesto Pascal. Milano, Ulrico Hoepli. Part II, 5th edition, 1924. viii+330 pages.

This new edition of Pascal's well known *Lezioni* appears to be a reprint of the 4th edition, which was reviewed along with Parts I and III in the BULLETIN for July, 1922. The opportunity offered by the need for a new printing seems to have been used to correct some of the misprints of the earlier edition, to introduce new ones (see $(x-b)_v f(x)$ on p. 16 or $\int \int f(x,y) dx dy$ on p. 166), and to repeat a few of the old friends (see $|y+\varphi'(p)| dp/dx$ on p. 260, or $\partial z/\partial x$ on p. 322). But they are all unimportant and do not detract from the great usefulness of the book.

A. DRESDEN

Unendliche Reihen. By Kuno Fladt. Mathematisch-Physikalische Bibliothek. Leipzig and Berlin, B. G. Teubner, 1925. 52 pp.

We have in this modest volume a pleasing account of the fundamental principles of infinite series. The material presented is what one would expect to find, and it is enriched by historical notes and references to the literature. The exposition is clear and rigorous; examples are given, and also a moderate number of exercises. The pamphlet seems to be an excellent introduction to the theory, and every beginner in analysis would be fortunate if he could have in his native language, a volume that embraced so much in so small a compass, and did it in so pleasing a way.

K. P. WILLIAMS