

*Einführung in die Ebenen und Körperlichen Oerter.* By Pierre de Fermat. Translated and edited by H. Wieleitner. Leipzig, Akademische Verlagsgesellschaft, 1923. 22 pp.

This little volume of the well known Ostwald's Klassiker series is even smaller than the pagination would indicate, as the preface occupies pages 5-6, the translation of Fermat's memoir pages 7-17, and the notes pages 18-22. Fermat, like Descartes and his other contemporaries, follows the Greek nomenclature, "plane" loci meaning straight lines and circles, and "solid" loci meaning conics. Curves of higher degree were called "linear." In this essay the various forms which equations of the first or second degree in two variables can take are briefly discussed, and it is shown geometrically that such equations lead to either "plane" or "solid" loci. Besides its interest to the student of the history of mathematics, the volume may be recommended to undergraduates who are working with the general equation of the second degree, as a striking illustration of the gain in power which they obtain through the use of analytic methods. It seems to the reviewer that some of Fermat's tangent constructions and problems in maxima and minima should have been included, thus rounding out one important section of Fermat's mathematical work, and incidentally bringing the book up to a size comparable with the others of the series.

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*Theorie und Anwendung der Unendlichen Reihen.* By K. Knopp. Berlin, J. Springer, 1922. 10 + 474 pp.

Occasionally one finds an individual who has the ability to present mathematical ideas in lectures in a perfectly translucent elegant manner. It is a real pleasure to listen to such a man, and to watch him develop the subject in a skilful way. It is an ideal towards which every one who lectures on mathematics aspires, but which seems so difficult of attainment. Of the same degree of rarity is the man who has the ability to write as though he were presenting the subject matter to a group of individuals, and who does it in such a delightfully clear way that it is a real joy to read and to absorb. Such seems to be the gift of the author of this volume on infinite series.

The book is not intended to give a profound discussion of the subject. That has recently been done by Pringsheim. Its purpose seems rather to be to provide an introduction to some of the fundamental ideas of the theory of functions of a real variable by showing their application in the theory of limits and particularly infinite series and products. The gap between a course in the calculus, and a profound discussion of the theory of functions of a real variable is often very hard to bridge. The study of infinite series in the manner indicated in this book would be an admirable way of doing this very thing.

A brief survey of the contents will indicate the scope of the book. The first part is devoted to a discussion of the irrational number, leading to a definition of limit of a sequence, the fundamental operations and properties of rational number being assumed. Then follows an elementary discussion of convergence of infinite series, leading to a treatment of power