Leçons de Géométrie Projective. By Lucien Godeaux. Paris, Hermann, 1933. 230 pp.

This volume is the outgrowth of the course of lectures on projective geometry given by the author at the University of Liége.

In the opening chapter the primary propositions regarding points, lines, and planes are given, also the fundamental forms and operations, postulates on the ordering of elements, and the principle of duality. From these the author develops in an extremely logical manner the fundamental theorems of projective geometry. Chapters II to VI inclusive deal with perspective figures, harmonic pairs, Dedekind's postulate of the continuum, and theorems on projectivities and involutions. The conics are taken up in the next two chapters; these include the construction and classification of the conics and the important theorems of Pascal, Brianchon, and Desargues. The remaining chapters, IX to XII inclusive, treat in a similar manner the projective properties of planes, of quadrics and their classification, the space cubic curve, collineations and correlations of space, and null systems.

The synthetic method is used throughout the text. The author however is careful to give the analytic representation of each type of projection considered, for which a knowledge of projective homogeneous coordinates is assumed. The text contains a very few figures, and a limited number of bibliographical references. A brief historical sketch of the development of projective geometry is included in the introduction.

The logical development and clear presentation of the subject is evidence of the care exercised in the preparation of the text. The appearance of the book is attractive, and it is unusually free of errors. It will be a valuable reference for students in projective geometry, and may help to revive interest in a subject which has been neglected in recent years.

J. I. TRACEY

Vorlesungen über die hypergeometrische Funktion, gehalten an der Universität Göttingen im Wintersemester 1893/94. By Felix Klein. Ausgearbeitet von Ernst Ritter. Herausgegeben von Otto Haupt. Berlin, Julius Springer, 1933. ix+344 pp.

This is a second edition of Klein's lectures on the hypergeometric function. In notes added by the editor, Professor Haupt, many of the details are illuminated by comparison with results in the more modern literature on analysis. Besides amplifying Klein's treatment of the hypergeometric function, these notes enlarge the historical perspective which Klein, in his characteristic style, gave to the lectures.

The lectures are divided into two series. The first series deal with convergence questions, with the qualitative investigations of Riemann, and with the representation of the hypergeometric function by means of contour integrals. The second series deal with the linear polymorphic functions which are quotients of two solutions of a hypergeometric equation.

This book will have a deep appeal to all who know how to appreciate the great masters of the nineteenth century.

J. F. RITT