all very well, but when the author goes so far as to propose that the Gaussian curvature be subjected to the ignominy of the name "second curvature," surely it is time to call a halt.

An able presentation of the elements of the subject by vector methods, a clearly written text with an abundance of good exercises, this book should prove a welcome addition to the literature in differential geometry.

W. C. GRAUSTEIN

Figures d'Équilibre et Cosmogonie. Mémorial des Sciences Mathématiques, No. XIII. By Alex. Véronnet. Paris, Gauthier-Villars, 1926. 62 pp.

One of the greatest problems of celestial mechanics has been that of determining figures of equilibrium of rotating fluid bodies. Its application to the theory of evolution of planets, stars, and stellar systems, has given it perpetual interest. Its difficulties have long baffled mathematicians. The author gives in the present little book a brief yet fairly comprehensive account of the progress that has been made towards solving those difficulties, from the times of Maclaurin, Clairaut, Laplace and Jacobi, to the more recent successes of Darwin, Poincaré and a number of living mathematicians, amongst whom Véronnet holds a prominent place.

The first chapter gives a resumé of studies of figures of equilibrium for the case of a homogeneous fluid; included are the results concerning the stability of those figures. The second chapter is devoted to heterogeneous bodies and the figures of the planets. Chapter three is concerned with a body having an atmosphere, the Laplacian nebular hypothesis, the figures of comets, and Saturn's rings. The fourth chapter takes up the dynamical equilibrium of stellar systems, and theories of cosmogony. The final chapter considers the thermodynamical equilibrium of the universe and its evolution.

At the end of the monograph there is a six-page bibliography of books and memoirs appertaining to the field covered. While this bibliography is far from exhaustive, it is sufficient to indicate most of the principal sources for a study of the famous problem. One might wish that reference had been made to more of MacMillan's recent papers.

E. J. MOULTON

Geodäsie (*Landesmessung und Erdmessung*). By Gustav Förster. Sammlung Göschen. Berlin, de Gruyter, 1927. 122 pp.

This small volume gives a popular account of the purpose, scope, mathematical foundation, and technique of surveying and of higher geodesy. Although technical calculations for problems of moderate difficulty are included, the actual mathematical content of the book is small. In the reviewer's judgement the informal but clear definitions, the technical descriptions of procedure, and in particular the explanations of the brief periodic deformations of the earth will be attractive reading particularly for mathematicians whose professional interest in geodesy is slight.

B. H. BROWN