unpublished results having been included. The bibliography, while not complete, is sufficiently extensive to be quite useful. At present, it is the only single work which could reasonably serve as an introduction to both linear and nonlinear elasticity. It is perhaps too specialized to be well suited for this purpose, though a comprehensive treatment would fill several volumes.

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Ricci-Calculus. An introduction to tensor analysis and its geometrical applications. By J. A. Schouten. 2d ed. Berlin, Springer, 1954. 20+516 pp. 55 DM; clothbound, 58.60 DM.

Since the publication in 1901 of the famous paper on absolute differential calculus by G. Ricci and T. Levi-Civita which established the foundation of the so-called Ricci-Calculus and especially since the publication in 1916 of the theory of general relativity by A. Einstein, the importance of Ricci-Calculus in its geometrical and physical applications has been universally recognized. The first edition of this book, published in German in 1923, covered all the researches made until then and played an important instructive role in this new branch of geometry. But since then tensor calculus was further developed to a great extent and many new notions were introduced, for example, normal coordinates, the symbolism of exterior differential forms, infinitesimal deformations, Lie derivatives, subprojective spaces and their generalizations in Hermitian geometry. To cover these new notions, J. A. Schouten and D. J. Struik published in 1935 and 1938 their *Einführung in die neueren Methoden der Differentialgeometrie* I and II. In this book they introduced the so-called kernel-index method which is a characteristic of Schouten's school.

Since 1935 Ricci-Calculus was again further developed. For example, the projective and conformal geometries have been studied in great detail from various points of view; Finsler and Cartan spaces, general spaces of paths and those of K-spreads were introduced, the motions in these spaces were studied by the use of Lie derivatives; and the ideas of harmonic spaces and of spaces of recurrent curvature were developed by British mathematicians. The book under review was written to cover these new developments in the Ricci-Calculus and the author tries to retain the instructive and the encyclopedic character which "Der Ricci-Kalkül" has. Thus, although the book is entitled "Ricci-Calculus, the second edition," it is an entirely new book.

It consists of eight chapters. The first chapter is devoted to tensor algebra. In the first section, an n-dimensional affine space E_n is