There is a slip in the transfinite induction theorem. It seems to permit one to prove a proposition true for "all ordinals." Incidentally, the Burali-Forti paradox on the set of all ordinals is explained two pages before this theorem. Aside from this, the reviewer found only typographical errors—and not very many of these. The format of the book is quite pleasing.

M. E. MUNROE

Differential line geometry. By V. Hlavatý. Trans. by H. Levy. Groningen, Noordhoff, 1953. 6+10+495 pp. 22.50 Dutch florins; cloth, 25 Dutch florins.

This book was first published in Czech in 1941 and was later translated into German and published by Noordhoff in 1945. The present edition is a translation from the German edition with the author's collaboration. The translator himself has added to the text by suggesting changes in some theorems and by adding a few new ones.

The book is meant to be a definitive work on three-dimensional differential line geometry, where line geometry in 3-space is studied as point geometry on a 4-dimensional quadric in a projective point space of 5 dimensions. Klein discovered the mapping of line geometry onto the 4-dimensional quadric, and for this reason the quadric is called the Klein quadric (or K-quadric) and the 5-dimensional space the Klein- (or K-) space. This viewpoint of three-dimensional line geometry has been used by authors before, but never as extensively as in this text. Both the classical material on the subject and new contributions by the author have been included.

The text is necessarily quite long and the author has tried to overcome some of the difficulties of length by dividing his work into "books," each of which can be read without the others. This naturally leads to some repetition of material. The books are divided into chapters which are numbered consecutively throughout the text. There are five books: the first (Chapter I) an introduction to line space; the second (Chapter II) on ruled surfaces; the third (Chapters III, IV, and V) on congruences; the fourth (Chapters VI–IX) on complexes, and the last (Chapter X) on line-space. Tensor calculus is used at all times, and simplifies the notation. For those readers who are unfamiliar with the tensor calculus the author has included in an appendix a straightforward, well written account of that part of the subject necessary for a reading of the text.

In the first book the author defines Plücker coordinates, Klein points, and Klein 5-dimensional space. He states that all topics, as