

is so arranged that it may be read immediately after the general introduction to each part, as no knowledge of the other portions of the book is presupposed. It would seem that this portion could have been materially improved by putting less emphasis on coördinates and more on the facts of collineation. It would have been still further improved by the addition of conical perspective of plane figures, and its relation to homology. In an appendix stereographic projection and conical mapping are defined and discussed. A second very interesting appendix shows the relation between the problems here treated and others of a more complicated nature. The historical growth of the subject is also outlined.

In the hands of a competent teacher the book will be of great service in assisting students to get clear ideas of the visual properties of space.

VIRGIL SNYDER.

*Catalog mathematischer Modelle für den höheren mathematischen Unterricht.* Von MARTIN SCHILLING in Halle a. S. 6th edition, 1903. 8°, xvi + 130 pp.

THAT the so-called Steiner school of mathematics (to which the great geometer did not himself belong) is gradually being superseded by other systems is shown by the remarkable increase in both the number and variety of geometric models and apparatus.

In 1899 the well known Brill collection of models was transferred to Mr. Schilling and the whole enterprise was put upon a more systematic basis. Beside having the active support of the former contributors, the collection is now supervised and augmented under the scientific direction of Professor F. Schilling in Göttingen.

The present catalogue begins with a brief historical sketch, followed by a well-arranged table of contents from which one can readily determine exactly what is to be found in the collection of about 300 pieces. The catalogue proper consists of two parts; the first (pages 1-76) gives a short description of each model, and the series are arranged in the order in which they were produced; the second part contains a more technical description, often a figure, and the series are arranged according to subject matter. A detailed explanation is included in the memoir which accompanies each model sent to purchasers.

The most important additions which have been made during the last five years are the following: