

LORIA ON HISTORY OF GEOMETRY

Il Passato e il Presente delle principali Teorie Geometriche. Storia e Bibliografia.

Quarta edizione totalmente rifatta. By Gino Loria. Padua, Casa Milani ("Cedam"), 1931. xxiv+467 pp. 60 lire.

This work has been so long and favorably known, having already passed through three editions, that in the brief space allowed under present conditions for a review it will serve our purposes if attention is called to only a few of its leading features. It is divided into two books, (1) From the beginning of geometric research to the close of the 19th century; and (2) The progress of geometry in the last thirty years. Of these, the second will prove the more interesting to most readers because the field is new and the sources of information, classified in subsections, are not so generally known as those of the period before 1901. A brief statement of the chapters in the first book will, however, serve two useful purposes; it will show to those not already familiar with the earlier editions the general nature of the work as a whole, and at the same time it reveals the foundation upon which the later structure rests. Condensing the chapter titles, we may say that the first book covers the following general topics: (1) General view of the development of geometry up to about 1850, (2) Theory of algebraic plane curves, (3) Theory of algebraic surfaces, (4) Theory of algebraic curves of double curvature, (5) Differential geometry, (6) Forms of geometric figures, curves of higher orders, analysis situs, (7) Modern geometry of space, congruences, (8) Correspondences, projections, transformations, (9) Numerative geometry, (10) Non-euclidean geometry, (11) Geometry in n -dimensional space, (12) General summary. This part of the work is almost identical with the whole of the second edition (1896) and the major portion of the third (1907).

The second book consists of three chapters with various subdivisions comprising substantially the same topics as in chapters 1-12.

What will first strike all readers is the great amount of periodical literature examined and classified. That this is confined almost entirely to Italian, English, German, and French publications is to be expected, since it is here that the largest number of original articles have appeared, and since these are the only languages familiar to most scholars. There are also references, however, to a few periodicals in the Scandinavian languages, the Dutch, and the Japanese (articles in English, French, or German). Professor Loria has examined upwards of a hundred journals and has classified the articles relating to geometry in such a way that students can find sources with a minimum of difficulty.

In the second book he begins by paying tribute to the achievements of those great leaders in the domain of geometry who passed away in this thirty-year period, with a few names belonging near the close of the preceding century. In Italy there was that "noble triad" consisting of Brioschi, Beltrami, and Cremona; there was "Cesàro, nel fiore di una meravigliosa attività scientifica"; and still later there followed Veronese, Dini, Segre, and Bianchi. Germany lost