

## SHORTER NOTICES

*Curve Sgembè Speciali Algebriche e Transcendenti.* Volume primo: Curve algebriche. By Gino Loria. Bologna, N. Zanichelli, 1925. x+374 pp.

The monumental treatise on plane curves\* by the same author has now been followed by the first volume of an extensive work of a similar nature on curves of three-dimensional space. The first chapter contains a fairly full derivation of the ordinary differential theory of space curves in general, followed by another on curves derived from a given one, such as radial curves, evolutes, filar and planar, pedals, parallel curves, medians of two given curves, etc. Most of these properties are not made further use of, and for. This reason it is curious to find them in a book with this title.

The subject of the book proper begins with a short chapter on the conic in space, treated parametrically, followed by one hundred and thirty pages on the cubic; first the general projective theory, then a detailed consideration of each metric type. The treatment is very elementary and complete. Then come the elliptic and the rational quartics, and finally a brief outline of quintics, and scarcely more than a mention of certain sextics and a few other isolated curves.

While the text is well supplied with historical and bibliographical notes, it is by no means exhaustive; it does include a number of quite recent papers, including some from our BULLETIN and TRANSACTIONS.

The characteristics of space algebraic curves, analogous to Plücker's numbers for the plane, are not given; in several cases rather primitive methods of deriving some of them are employed, when they could be read out of tables uniquely from others already known.

The book is not provided with an index, either of names or of subject matter. In a work of this kind, such indexes are particularly useful. The matter is so arranged, however, that a topic can be found without undue effort.

The mechanical execution is excellent, and the type large and clear. On the whole but very few typographical errors were noticed, and of these none would be liable to confuse the reader. The citation of German titles suffers most heavily in this regard.

VIRGIL SNYDER

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\* *Spezielle algebraische und transcendente ebene Curven, Theorie und Geschichte, Autorisierte, nach dem italienischen Manuscript bearbeitete deutsche Ausgabe von Fritz Schütte, 1902; 2nd edition in two volumes, 1910-1911.*