

work of an amateur addressed to amateurs) we have tried to take account of the reasonable exigencies of the critics and purists without pretending to give them throughout full satisfaction; a purist is never satisfied."

The author thinks that his treatise can be understood by every intelligent person even without any mathematical knowledge. He does not give any references and seems to excuse this lack by the fact that the only books at his command are the works of Darboux (*Classe Remarquable de Courbes et de Surfaces*), of Dumont (*Surfaces Cubiques*), of Duporcq (*Géométrie Moderne*), and the *ENCYCLOPÉDIE DES SCIENCES MATHÉMATIQUES*. He also suspects that here and there a proposition supposed to be new may have been discovered or demonstrated before, but leaves the decision as to priority to those who are better versed in the subject.

In a preliminary chapter, M. Bally treats of ordinal arithmetic, then follows Chapter I on "general notions on geometry", in which he includes the fundamental ideas of higher spaces by introducing some new terms, like *polinarity* for the number of elements necessary to determine geometric forms.

On account of the high cost of printing, Chapters II–XI have not been published in the present volume. It concludes with three chapters XII, XIII, XIV on the hexangle, Pascals hexagramme, and related configurations; an appendix on Chapter XIII, and finally with additions and corrections to the previous work of the author on synthetic geometry on unicursal curves of the third class and the fourth order.

The author shows considerable mathematical ability, but he is seriously hampered by his unfamiliarity with the current literature and the present tendencies of geometric research.

ARNOLD EMCH

*Darstellende Geometrie*, vol. II. By Theodor Schmid. Second edition. Berlin and Leipzig, Walter de Gruyter (Sammlung Schubert, LXVI). 1923. 340 pp.

Although the work of Professor Schmid was to occupy three volumes, three editions of the first and now a second edition of the second volume have appeared before the third volume could be completed. The first edition of volume 2 was published in 1921, and reviewed in this *BULLETIN* (vol. 28 (1922), pp. 68, 69). The present one differs only slightly from it, and the remarks there made still apply. Three articles have been lengthened; one discusses a nodal normal section of a tubular surface, another amplifies the anaxomatic representation of the helix, and the third enlarges on the projections used in geographic maps. A section has been added on graphical tables and nomography, together with a good bibliography on this subject.

VIRGIL SNYDER