K. P. Grotemeyer: Analytische Geometrie, 2nd edition, Sammlung Göschen Bd. 65/65a. W. de Gruyter, Berlin, 1962. 218 pages. Price DM 5.80.

Here is a careful treatment of three-dimensional geometry which would serve as an excellent guide to anyone proposing to give an un-hackneyed course. The approach is a true vector approach; the coordinate system does not appear until Chapter II, having been preceeded by an introduction to vectors in space and the algebra connected with them.

A large part of the book is devoted to transformations, not only the Orthogonal Transformations, but general Linear Transformations (Affine Mappings), Similarities, and Collineations and Correlations of Projective Geometry.

There is an exhaustive treatment of quadric surfaces, both in Euclidean and Projective space. The last chapter is a brief look at the notions which generalize the geometrical treatment of vectors in the earlier chapters, thus laying the groundwork for a smooth transition from Vector Geometry to abstract Linear Algebra.

F. A. Sherk, University of Toronto

Topics in Geometry, by Hazel Perfect. Pergamon Press, London, 1963. viii + 153 pages. $2.95.

This is a very readable little book, presenting many classical topics in Euclidean geometry beyond the level of high school geometry and not usually taught in North American universities. Almost completely synthetic in approach, this book makes excellent background reading for students beginning their study of projective and non-Euclidean geometry.

The standard topics are covered, including: isometries of the plane, properties of triangles and circles, points at infinity, projections, inversion, properties of conics. The chapter on coaxal circles is especially interesting, since the author uses a rather unorthodox definition of a coaxal family: the section by a plane of a family of spheres all passing through one circle.

The only error noticed was on page 14, where we read: "A particular kind of geometry may be characterized by the kinds of properties studied in it or equally well by the group of transformations which preserve these properties (the transformations made up of translations, rotations and reflexions in the case of Euclidean geometry)."

https://doi.org/10.1017/S0008439500024450 Published online by Cambridge University Press

Actually the group which characterizes Euclidean geometry includes "similarities" as well as these isometries (see Coxeter, H. S. M. "Introduction to Geometry", page 67).

The chief value of this book lies in the stimulation it gives the reader to explore the more advanced fields that the author mentions in the notes at the end of each chapter, such as projective geometry, hyperbolic and elliptic geometry, and group theoretic foundations of geometry.

C. W. L. Garner, Carleton University

An Introduction to Vector Analysis, by F. Max Stein. Harper and Row, New York and Evanston, 1963. xii + 209 pages.

This book is an introductory text in classical vector analysis. It contains the following chapters:

1. The Algebra of vectors. 2. The differential calculus of vectors. 3. Differential geometry, (introduction to the theory of curves and curvilinear coordinates). 4. Elementary theory of integration. 5, 6, 7. Introduction to theoretical mechanics.

The above materials are treated in an almost similar fashion as in all classical books of vector analysis written in the last fifty years. One should add that the presentation of the subject is very clear and well organized.

The book is suitable for students who have completed a first course in calculus and an introductory course on differential equations.

H. A. Eliopoulos, University of Windsor

Introduction to General Topology, by Z. Mamuzić. Translated from the first Serbo-Croatian edition by Leo F. Boron, P. Noordhoff, Ltd., Groningen, 1963. 159 pages. Price Dfl. 17.50.

This book is a good, concise survey of the various types of structures on a set that are considered in general topology and of the interconnections between them. As such, it is recommended to those mathematicians who are acquainted with the basic elements of general topology and who wish to learn about all the various ways that have been developed for introducing a topology into a set by means of some other type of structure.

In particular, it is to be noted that this is the first English