

Chapter VI also takes up the properties of subspaces, quotients and duals of  $S$ -spaces.

Finally, Chapter VII is also an elaboration of original ideas of the author. Given a class  $\mathcal{L}$  of locally convex spaces, one defines the class  $B(\mathcal{L})$  as consisting of those locally convex spaces  $E$  such that, for any space  $F$  in  $\mathcal{L}$ , statement (A) is true for almost open mappings; if  $\mathcal{J}$  is the class of barrelled spaces,  $B(\mathcal{J})$ -spaces are thus the  $B$ -complete spaces defined earlier. The author chiefly investigates in that chapter what can be said of statement (B) for  $B(\mathcal{L})$ -spaces, for various classes  $\mathcal{L}$ .

A detailed historical note, a bibliography and two indexes end the book, which is concisely and clearly written.

J. Dieudonné, Nice

Geschichte und Theorie der Kegelschnitte und der Flächen zweiten Grades, by Kuno Fladt. Ernst Klett Verlag: Stuttgart, 1965. x + 374 pages. 185 figs. DM 48.

More than fifty years ago the author, then still a student, felt already the need for the type of book that he has now written. Of moderate size, it should contain the essential properties of the conic sections in a presentation which recapitulates the historical development of this theory. The result of the author's life-long occupation with the subject can be highly recommended to students and teachers of mathematics alike. Compared with J. L. Coolidge's "History of the conic sections and quadric surfaces" (Oxford, 1945, Dover Reprint 1947), Fladt's book puts emphasis on elementary methods in the sense of Felix Klein's "Elementary mathematics from an advanced standpoint".

Part I (140 pp.) traces the historical development of the theory of the conics and quadrics from antiquity to the present, summarizing the works of the more important mathematicians whose names are connected with it (Menaechmus, Euclid, Apollonius, Desargues, Pascal, Poncelet, Steiner, von Staudt, Plücker, Möbius, Salmon, Cayley, Klein and many more are discussed). The use of modern algebraic and geometrical formulas and language enable the author to do this in a concise and yet readable form. Part II (190 pp.) builds up the theory of the conics in a more systematic way. Guiding principle is Klein's classification of geometries according to invariants under groups of transformations. Euclidean, affine and projective treatment follow each other, with a special section on conics as projections of the circle. Part III (20 pp.) gives an outline of an elementary treatment of quadratic surfaces, while Part IV (16 pp.) contains a skeleton summary of modern methods (vectors, matrices, invariants, axiomatics, etc.), with reference to recent German literature. The importance of the conics for the foundation of geometry, which Cayley recognized first, is stressed, but a detailed treatment would have gone beyond the scope of this unique book.

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