Über Kurven und Flächen in Allgemeinen Räumen. By P. Finsler. A reprint of the 1918 dissertation with a detailed bibliography by H. Schubert. Basel, Birkhäuser, 1951. 12+160 pp. 14.80 Swiss fr.

This unaltered photographic reproduction of Finsler's thesis will be welcome to many mathematicians. For, as Ostrowski states in his preface, this is one of the few first works which have had a great and lasting influence, and, being a thesis, existed in only very few copies many of which are owned by Finsler's friends. But the book will be more than a classic in a geometer's library. The reviewer concludes from his own sad experience that there must be many instances where apparently new results were found to be already in Finsler's thesis after the latter finally became available through interlibrary loan. Moreover, there are many ideas which may facilitate later work. An example, where this could have, but did not, happen because the thesis was so inaccessible, is furnished by the expression (58), p. 59, for curvature, which can be applied without change to general metric spaces, and was later proved by Haantjes to be essentially equivalent to Menger's curvature. In addition to the thesis the present edition contains a comprehensive list of books and papers concerning Finsler spaces (until 1949) compiled by H. Schubert. It has a wide scope and comprises references to tensor calculus, ordinary and Riemannian geometry, the geometry of paths, the calculus of variations, spaces of infinite dimension, which are ordinarily not considered as contributions to Finsler spaces. This bibliography will prove very helpful, provided the user is aware of the fact that it is not complete, even as to papers which contain results on Finsler spaces in the narrow sense.

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Integral transforms in mathematical physics. By C. J. Tranter. New York, Wiley, 1951. 10+118 pp. $1.50.

A variety of linear integral transformations that are useful in solving boundary value problems in differential equations is presented briefly here. In addition to the usual Laplace, Fourier, Mellin, and Hankel transformations, finite Fourier, Hankel, and Legendre transformations are considered. The inverses of those transforms are given, accompanied in most cases by formal derivations. Applications of those transformations to the solution of boundary value problems in partial differential equations of physics or engineering are illustrated. Short chapters are included on numerical evaluation of integrals and on a combination of relaxation and transformation