geometric considerations of first and second order for motions in space, beginning in particular with the study of ruled surfaces and axial planes, then of orbits and envelopes.

There is an appendix containing two notes, one on the concepts of surface area and volume, the other on non-euclidean mechanics of points and rigid bodies. Numerous exercises and figures and a detailed index enliven and facilitate the use of this distinguished work. Many-parameter motions and integrals of kinematics are hardly touched upon.

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Dictionary of mathematical sciences. Vol. 1, German-English. By Leo Herland. New York, Ungar, 1951. 235 pp. $3.25.

This is an ambitious and fairly successful attempt to provide mathematicians with the English equivalents of German mathematical terms. The arrangement, the typography, the elaborate system of cross-references and illustrative phrases are all excellent. In most cases the author has avoided the obvious pitfalls of using the English cognate word instead of the English idiom, or of always using the same translation for the same German word. Thus for example *Fakultät* comes out correctly as "factorial," and *Satz* in compounds is "theorem," "law," or "condition" according to the context. Presumably for the benefit of anyone who has to listen to lectures in German, the spoken use of such words as *hoch* (as in *fünf hoch ein Viertel*) is included. The chief adverse criticisms which have to be made are a lack of completeness and a lack of accuracy, both of which could have been avoided if the author had consulted specialists in several branches of mathematics, as he did consult specialists in commerce and statistics for the technical terms in these fields. The dictionary also covers such fields as logic, physics, and astronomy to some extent, but the comments in this review will be confined to its coverage of mathematics proper.

According to the preface this dictionary centers "about the major subjects of mathematics and geometry" [one wonders what the author considers mathematics to be, if geometry is not a part of it]; it "does not claim completeness, although the aim has been to include all important terms." As far as concerns arithmetic, elementary algebra, the less specialized forms of geometry, calculus, the elements of set theory and of the theory of functions, the coverage is quite thorough; a brave attempt has been made to cover abstract algebra; but topology and applied mathematics are practically omitted. The latter omission seems particularly serious since applied mathematics