

This volume consists of three parts: I, Central projection; II, The principles of linear representation; III, Special representations. It also contains a subject index and a name index. In the second part the three principles are called "Zweispuren," "Zweibilder," and "achsonometrische." Ten pages are devoted to Pohlke's theorem. In the third part the four chapters deal with the ordinary linear representations, relief perspective, a representation of plane motion in point space (kinematic representation of Blaschke and Grünwald), and a projective generalization of Lie's line-sphere transformation. Four of the ten chapters of the book are concluded by lists of exercises.

This volume is not intended for beginners: it presupposes a knowledge of both descriptive and projective geometry. But for one who is prepared to read it, it offers an excellent treatment of interesting and valuable material.

E. B. COWLEY

*Methodik des mathematischen Unterrichts. 2te durchgesehene und vermehrte Auflage. Zweiter Teil: Didaktik der einzelnen Gebiete.* By W. Lietzmann. Leipzig, Quelle und Meyer, 1923. xii + 367 pp.

This work covers the customary mathematical subjects from arithmetic to analytic geometry, the elements of modern geometry, and of calculus, inclusive. In an easy, almost chatty style, the author discusses, at will, points of subject matter, of method and of twentieth century developments in the teaching of the topic in hand. References to twentieth century publications are liberally furnished, to German works as a rule, but also to some in French and a few in English. From arithmetic to analytic geometry, there are given numerous pictures, often from photographs, illustrating models and apparatus. Mathematical moving pictures are discussed (pp. 126-8), and the upshot of the matter is that films have not yet established themselves as valuable adjuncts to mathematical instruction. The illustrations must speak for themselves; no description of the manner of construction or *modus operandi* is given. Nevertheless, for the average American reader these illustrations will perhaps be the most interesting and suggestive portion of the book. They certainly are the most easily accessible.

J. W. A. YOUNG

*La Relativité Vraie et la Gravitation Universelle.* By Georges Fournier. Paris, Gauthier-Villars, 1923. viii + 130 pp.

This alleged refutation of the work of Einstein must be classed with the work of the circle-squarers. Since those teaching the theory of relativity might use this pamphlet as material for an exercise in locating fallacies, I will not list them here.

It is disappointing to find the imprint of Gauthier-Villars on such a book. This is not the only recently published French work which has suggested the intrusion of a spirit of nationalism into the scientific world.

C. N. REYNOLDS, JR.