

*Einführung in die Mechanik Deformierbarer Körper.* By Max Planck. Zweite Auflage. Leipzig, Hirzel, 1922. 191 pp.

The first edition of this little book appeared in 1919. This second edition is little more than a corrected first edition. The contents are divided into three parts. Part one (two chapters) deals with strains and stresses in an elastic medium. Part two (four chapters) deals with infinitesimal deformations and in particular with the relations connecting the coefficients of strain and stress. In the last two chapters the preceding theory is applied to the problem of the vibration of solids and fluids. Part three (four chapters) is devoted to rotational and irrotational fluid motion. The last chapter is on viscosity. The equations of hydrodynamics are derived as special cases of the general equations of elasticity. The equation of continuity is given in two forms, one stating that a given small mass of fluid remains invariant, and the other that the difference between the inflow and outflow from a small volume is equal to the increase in the mass contained in the small volume.

The author being a physicist, the treatment is more physical than the usual book on elasticity and hydrodynamics, with the exception of that by Thompson and Tait. The style is clear, concise, and appealing. Even one familiar with the subject will find Planck's treatment refreshing and fascinating.

C. L. E. MOORE

*Lehrbuch der darstellenden Geometrie für technische Hochschulen.* By Dr. Emil Müller. Zweiter Band, dritte Auflage. Leipzig and Berlin, B. G. Teubner, 1923. x + 362 pp.

*Vorlesungen über darstellende Geometrie.* By Dr. Emil Müller. Band I. *Die linearen Abbildungen.* Revised by Dr. Erwin Kruppa. Leipzig and Vienna, Franz Deuticke, 1923. xi + 292 pp.

The first edition of Professor Müller's text on descriptive geometry was reviewed by Professor Snyder [vol. I (1908), 1st part of vol. II (1912), and 2d part of vol. II (1916) in this BULLETIN, vol. 16, p. 136; vol. 20, p. 253; and vol. 24, p. 257]. The second editions of the two parts of the second volume, which appeared in 1919, were practically the same as the first edition. In the preface to the third edition of volume II (where the two parts are bound together), the author says that he has made only slight changes, although he has much new material which he might have inserted.

In the preface to the Müller-Kruppa book, Professor Müller says that soon after he took the chair of descriptive geometry (in 1902) at the Technical High School of Vienna, he began to supplement his regular teaching by advanced lectures containing some results of his own researches. These gradually settled down to a four-year cycle, although the content has naturally undergone changes. As he did not have the time to get any of this material into shape for publication, he was happy when his former pupil and present colleague was willing to undertake the task for some of the lectures. Although Professor Kruppa had the original manuscripts, Professor Müller gives him the credit for the final wording, for the drawings, for the revision of some parts of the manuscript, and for certain additions.

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.

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