

turn the steps by which the solution of this problem is accomplished.

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Vorlesungen über technische Mechanik. Von AUGUST FÖPPL. Dritte Auflage. Bd. 1: *Einführung in die Mechanik*, xvi + 428 pp.; Bd. 3: *Festigkeitslehre*, xvi + 434 pp. Leipzig, B. G. Teubner, 1905.

THE valuable and highly popular work of Föppl on technical mechanics, which began its publication about ten years ago and rapidly ran into a second edition, is now appearing in a third edition of which the first and third volumes are already printed. The present plan calls for no serious changes in the text* other than an expansion into five volumes, the last of which is to contain a considerable amount of matter important for students of technical mechanics but somewhat more advanced than properly finds a place in the general fundamental lectures which fill the first four volumes.

The first or introductory volume still adheres closely to the original maxims of the author, namely, that mechanics is in reality a branch of physics and should be thus presented to beginners, and that no material should be inserted merely because some persons of special and restricted point of view might call for it. One of the most admirable features of the volume is its presentation of the elements of elasticity and hydro-mechanics in addition to the discussion of the mechanics of a particle and rigid body. It is probably true, and as such it is certainly regrettable, that the great majority of students leave the subject of mechanics after a course by no means meagre with the conviction that mechanics means merely the equilibrium and motion of a particle or rigid body. There is no great difficulty in giving even beginners a realizing sense of the fact that the subject is broader, that the general laws are equally applicable to the study of continuous distributions of matter. This, however, can only be accomplished by thorough adherence to the principle that mechanics is physics rather than mathematics and by a sacrifice of problems which involve complicated mathematical treatment. This the author does with great discretion. His students need not be experts at calculus and analytic geometry to be able to follow with

* An extended review of the four volumes as they appeared in the second edition was given in the BULLETIN, volume 9, pp. 25-35, 1902.