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THEORETICAL MECHANICS IN ENGINEERING SCHOOLS

By Professor WILLIAM HOVGAARD

THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY

As indicated by the title, it is proposed to deal with theoretical mechanics chiefly from the engineer's point of view, but in modern engineering colleges it is impossible to draw a sharply defined line between the education of engineers and physicists. The modern engineers of advanced scientific standing, notably research engineers of all professions, are required to be physicists as well as engineers. Moreover, a high-grade technical school seems to afford the best environment for the education of physicists, while physics forms one of the most important disciplines in the education of engineers. We shall therefore on several occasions refer to the requirements of the physicists.

Mechanics is commonly subdivided into two parts, theoretical and applied, but it is proposed here to deal in particular with the former, which bears a close relationship to mathematics and, in its widest sense, forms the main body of what is usually called applied mathematics. Often the two parts of mechanics, the theoretical and the applied, are dealt with and taught together, but it will be here attempted to distinguish rather sharply between them, although it is not always easy to do so.

The name applied mechanics is misleading and confusing. As commonly understood this science deals only with the application of theoretical mechanics to structural and mechanical engineering, but it might with equal right be said to deal with other branches of engineering where theoretical mechanics in the modern and wider sense is applied to the same extent. We shall not, however, try to widen the meaning of the term applied mechanics beyond common usage, but rather extract that which does not belong to it, for as taught at present it comprises much of an abstract nature which properly belongs under theo-