

*Einführung in die Mathematische Behandlung Naturwissenschaftlicher Fragen. Erster Teil: Funktion und Graphische Darstellung. Differential- und Integralrechnung.* By A. Walther. Berlin, Springer, 1928. 8+220 pp.

This introduction to the mathematical treatment of questions in natural science is intended primarily for physicists, chemists, and biologists. A detailed review appeared in *The American Mathematical Monthly* for March, 1930, pages 145–147.

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*Dynamics.* By A. S. Ramsey. Cambridge, University Press, 1929. 12+259 pp.

Professor Ramsey, President of Magdalene College, Cambridge, has added one more to the long list of good English texts on mechanics. It is based upon lectures given during many years to students preparing for the Mathematical Tripos and it is assumed that the reader has already acquired some knowledge of elementary dynamics. It is stated in the preface that “an attempt has been made to preserve the conciseness of lecture notes and at the same time to give detailed explanations where experience has shown that students find difficulties.” In this attempt the author has succeeded admirably and has included a considerable number of worked examples. But no student can learn much about mechanics without solving problems for himself and the chief value of the book as a teaching text lies in the extensive collection of examples for solution, which have been taken largely from Scholarship and Tripos examination papers.

After three brief chapters on kinematics, the treatment of kinetics is based squarely on Newton's Laws of Motion. Admitting that from a philosophical standpoint Newton's definitions and laws offer much scope for criticism, the author decides to leave to the reader his primary conceptions of time and space and to adopt a Newtonian basis for the development of the subject. “Newtonian Mechanics is the basis of all theoretical work in applied mechanics or engineering and the results of the theory have been and are still being confirmed every day by numerous appeals to experiment, so that nowadays no one questions whether the theory is adequate to furnish reliable results in common matters. It is only when on the one hand we begin to investigate what is relatively very small, e.g., the interior of an atom, or on the other hand when we leave the earth and apply the Newtonian theory on a much wider scale that discrepancies can be detected, and even here it may be remarked that Newtonian Mechanics has proved adequate to enable astronomers to predict the time of eclipses with an accuracy that would hardly have been possible had the foundations of dynamics been radically at fault.”

Later, in discussing the motion of particles under the inverse square law, the differential equation of the orbit, as modified by Einstein's Law of Gravitation, is given and the solution shows how this may account for the observed advance of the perihelion of Mercury.

The scope of the book is that of the usual course in dynamics for the better undergraduates who are interested in the subject from the mathematical point of view.

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