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phenomena with the associated theoretical interpretation. The treatment has a definite experimental slant and indeed the text is liberally illustrated with descriptions of experiments and diagrams of experimental equipment. Some of the latter are indeed a bit old-fashioned from the standpoint of present day knowledge of acoustics. The mathematical development has been kept on a relatively simple level, demanding only elementary calculus and differential equations. The style is clear and in many respects elegant, reflecting considerable effort toward accuracy combined with simplicity of expression.

The book is divided into three main sections of approximately equal length. These are: 1) vibratory motions, 2) elastic waves, and 3) production and detection of acoustic waves. The material thus serves as an adequate introduction to basic acoustics from what may be called the classical standpoint. The references to acoustical advances in the past twenty-five years, e.g., ultrasonics, are relatively scanty. This is all the more unfortunate in view of the fact that the claim of acoustics to be a vital part of modern physics is inevitably based on the recent studies on the interaction of acoustic waves with matter in its various phases and the associated use of such waves in the exploration of the structure of matter.

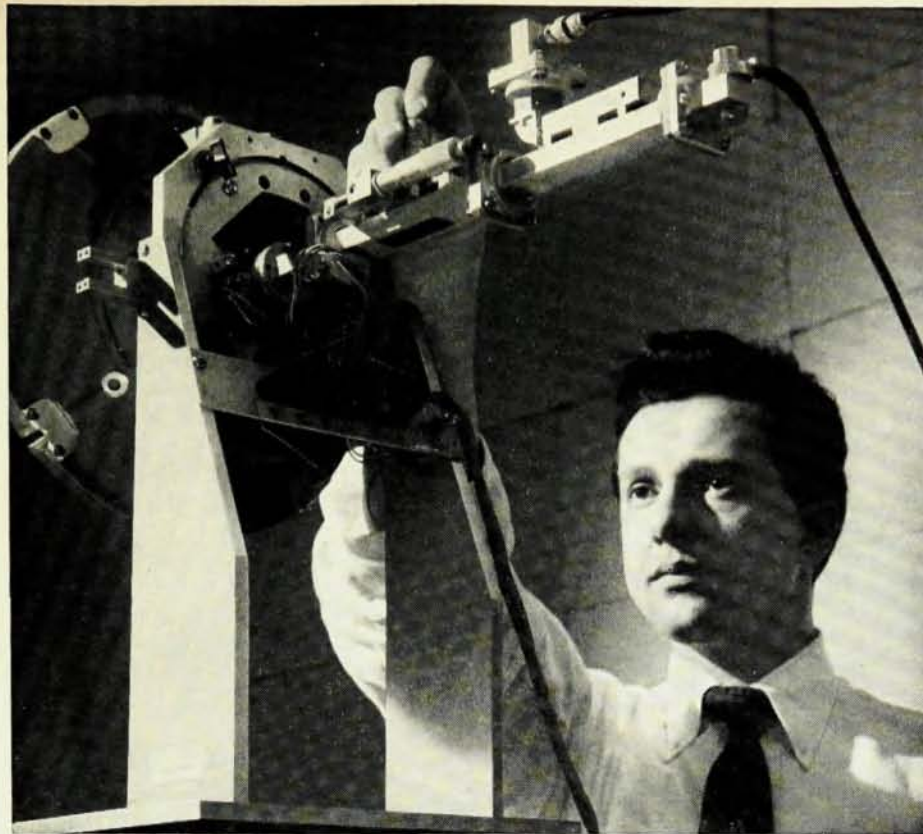
There appear to be few serious errors or misprints. The reviewer was indeed sorry to see once more the hoary old bell-in-jar experiment described in the time-worn and wholly inadequate terms of sound not being able to pass through a "vacuum". The treatment of group velocity is also not as careful as it might have been.

American students of acoustics will find this a very satisfactory book in which to practice and improve their grasp of scientific French in preparation for handling more advanced research material in that language.

Briefly Noted

Application of Dimensional Analysis to the Relationship Between Velocity of Sound and Physical Properties of Organic Liquids, by Dudley Thompson and N. N. Bakhshi, is a pamphlet in which the authors apply dimensional analysis to the correlation of sound velocity in various organic liquids with their density, surface tension, viscosity and molecular weights. The relations obtained may be of use in the extensive theorizing now proceeding in this field. (26 pp.; Bulletin of the Virginia Polytechnic Institute; Engineering Experiment Station Series No. 100; June 1955; \$0.25.)

Revised as well as brought up-to-date, the second edition of David Halliday's *Introductory Nuclear Physics* (493 pp.; John Wiley, New York, 1955; \$7.50) seems even better adapted than its predecessor to the needs of an undergraduate or early graduate course in this subject. The treatment is largely descriptive (although a number of derivations are sketched), permit-



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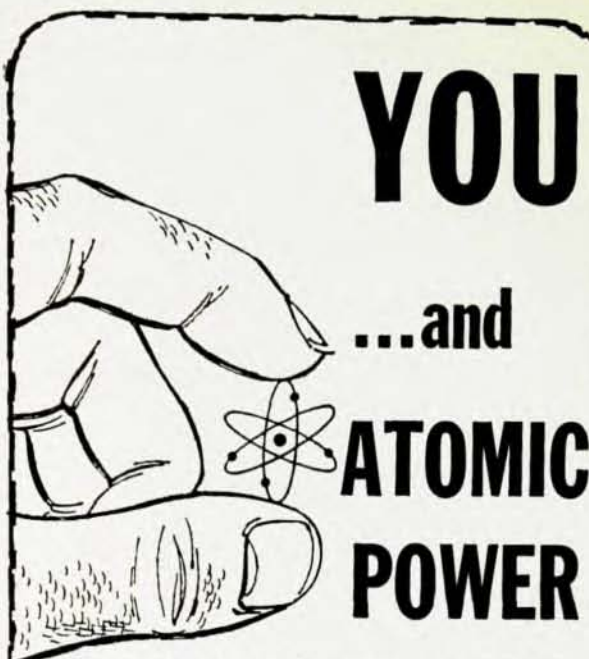
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ting a good deal of territory to be covered. An early chapter is devoted to elementary quantum mechanics, and quantum-mechanical concepts such as phase shifts are developed carefully throughout the text.

Theorie der Wärme, Molekular-kinetische Theorie der Materie, by Clemens Schaefer, is an essentially unchanged reprint of the second volume's third edition of the author's well-known three-volume introduction to theoretical physics. It first appeared in 1920, was considerably revised for the second edition in 1929 and has remained essentially in that form, the war conditions prevailing in 1943 when a third edition was demanded having made an extensive overhaul impracticable. The fact that a reprinting of the third edition is now called for speaks eloquently for the outstanding service the work has performed in the training of theoretical physicists. It remains one of the clearest introductory works in this field in any language. (Vol. 2 of *Einführung in die theoretische Physik*; 660 pp.; Walter de Gruyter, Berlin, Germany, 1955; DM 42.00.)

Books Received

THE THEORY OF PHOTONS AND ELECTRONS. By J. M. Jauch and F. Rohrlich. 488 pp. Addison-Wesley Publishing Co., Inc., Cambridge, Mass., 1955. \$10.00.

METHODS OF MATHEMATICAL PHYSICS (Third Edition). By Sir Harold Jeffreys and Bertha Swirles, 714 pp. Cambridge U. Press, New York, 1956. \$15.00.

PHYSICAL PROPERTIES OF CHEMICAL COMPOUNDS. #15 of the Advances in Chemistry Series. Compiled by R. R. Dreisbach. Edited by the staff of Industrial and Engineering Chemistry. 536 pp. American Chemical Society, Washington, D. C., 1955. \$5.85.

BETWEEN THE PLANETS (Revised Edition). By Fletcher G. Watson. 188 pp. Harvard U. Press, Cambridge, Mass., 1956. \$5.00.

KERNMOMENTE (Second Revised Edition). By Hans Kopfermann. 462 pp. Akademische Verlagsgesellschaft MBH, Frankfurt am Main, Germany, 1956. DM 54.00.

APPLICATIONS OF RADIOACTIVE ISOTOPES AND FISSION PRODUCTS IN RESEARCH AND INDUSTRY. Vol. 15 of Peaceful Uses of Atomic Energy; Proceedings of the Internat'l Conf. in Geneva, August 1955. 327 pp. (UN) Columbia U. Press, New York, 1956. \$7.50.

LES AÉROSOLS. By A. P. Avy. 292 pp. Dunod, Paris, France, 1956.

LINES OF THE CHEMICAL ELEMENTS IN ASTRONOMICAL SPECTRA. Vol. IX of Papers of the Mount Wilson Observatory. By Paul W. Merrill. 167 pp. Publication No. 610. Carnegie Institution of Washington, Washington, D. C., 1956. Clothbound \$2.00; paperbound \$1.60.

11TH GENERAL ASSEMBLY OF THE INTERNATIONAL SCIENTIFIC RADIO UNION (URSI). Volume X, Part 7, Commission VII on Radioelectronics. 140 pp. International Scientific Radio Union, Brussels, Belgium, 1956. Paperbound \$3.00.

RAPID CALCULATIONS. By A. H. Russell. 287 pp. Emerson Books, Inc., New York, 1956. \$2.95.