

Other noteworthy items are the generous use of cross referencing between the chapters to cut down duplication (which indicates good editing), the use of rationalized MKS units, and placement of the chapter on thermodynamics after a chapter on atomic theory of heat.

The editor's stated objective was an attempt to treat all subjects on the same level. Although several of the chapters are too superficial, or lacking in cohesiveness, this objective has been largely achieved.

Some may question the extensive inclusion in an elementary undergraduate textbook of topics in modern physics on the grounds that their treatment must of necessity be more fragmentary, and descriptive, and less rational, and quantitative. Others may feel that the tremendous advances primarily in quantum physics justify the student's introduction to it as soon as possible. This book should find favor in either camp because of the over-all excellence of the writing, particularly of the classical topics. The chapter on thermodynamics by J. de Boer should be singled out, in the reviewer's opinion, as the finest presentation of this topic at this level presently available in the English language.

Neutron Optics. By D. J. Hughes. 136 pp. Interscience Publishers, Inc., New York, 1954. \$2.50. *Reviewed by C. G. Shull, Oak Ridge National Laboratory.*

This little volume appears to be a pocket-sized edition of the author's more complete *Pile Neutron Physics*. It is attractive in offering a very readable and easily followed description of the many interesting experiments which have been performed with beams of slow neutrons. The various refractive, reflective and diffractive experiments all share in the treatment and their applications in determining important physical data such as the neutron-proton coherent scattering amplitude are discussed. The more serious-minded reader will, of course, want to refer to the research papers or reviews which are bountifully referred to.

The easy reading which characterizes this tract, labelled Number 1 in a series on physics and astronomy, is occasionally bought at the expense of rigor but these lapses appear as genuine attempts on the part of the author to achieve simplicity. This reviewer for one is anything but critical of such an effort in a volume like this.

Seismology

The science of seismology, aside from its importance in the study of earthquake phenomena, yields information in other fields as well. An example is the behavior of materials at pressures higher than attainable in the laboratory yet lower than those for which theoretical predictions exist. For such pressure, between 10^5 and 10^7 atmospheres, the interior of the earth is the sole source of data, with the seismograph as probe. In a brief but thorough book, *Seismology* (John Wiley and

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By MARSH W. WHITE, and KENNETH V. MANNING, The Pennsylvania State College. Third edition. 347 pages, \$5.00

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Sons, Inc., New York, 1954, 132 pp., \$2.00), by K. E. Bullen of the University of Sydney, provides an introduction to this and other problems involved in interpreting earthquake waves. A considerable amount of material is presented in this brief treatment, and the numerous references to original work should add to its utility.

Radiation Handbooks

A series of handbooks on the general subject of radiation protection has been prepared under the sponsorship of the National Bureau of Standards. The most recent of these are: Recommendations for the Disposal of Carbon-14 Wastes (*Handbook 53*, 15 cents); Protection Against Radiations from Radium, Cobalt-60, and Cesium-137 (*Handbook 54*, 25 cents); Protection Against Betatron-Synchrotron Radiations up to 100 Million Electron Volts (*Handbook 55*, 25 cents); Safe Handling of Cadavers Containing Radioactive Isotopes (*Handbook 56*, 15 cents); Photographic Dosimetry of X- and Gamma Rays (*Handbook 57*, 15 cents); Radioactive Waste Disposal in the Ocean (*Handbook 58*, 20 cents); and Permissible Dose from External Sources of Ionizing Radiation (*Handbook 59*, 30 cents). Ranging in size from 14 pages to 79, the individual booklets may be obtained from the Government Printing Office, Washington 25, D. C.

American Men of Science

The current ninth edition of *American Men of Science*, cosponsored by The Science Press and R. R. Bowker Company, is divided into three volumes, one each for the physical, biological, and social sciences. *Physical Sciences*, the 2180-page first volume, contains 43 518 entries; the succeeding volumes will have an estimated 25 000 entries each. The increase in size of almost 100 percent represents "a phenomenal recent expansion in almost every field of science" since the earlier edition of 1949. In cases where a scientist's specialty is in a field such as biochemistry or biophysics, his name will appear in both volumes 1 and 2, with the biographical note appearing in the volume of his choice. The material is easily read without recourse to lists of abbreviations. Edited by Jaques Cattell, Volume 1 is available from the R. R. Bowker Company, 62 West 45 Street, New York 36, N. Y., for \$20.00 postpaid.

Correction

The book *Basic Mechanisms in Radiobiology, Physical and Chemical Aspects*, edited by Magee, Kamen, and Platzman, can be purchased by writing to the National Research Council, Washington 25, D. C. It is not available from the Government Printing Office as was indicated in the April issue of *Physics Today*, p. 18.

Books Received

ELECTRICITY AND MAGNETISM. By Ralph P. Winch. 755 pp. Prentice-Hall, Inc., New York, 1955. \$7.75.