

A Textbook of Heat

For Upperclassmen. By Prof. LeRoy D. Weld. Pp. x+436. (New York: The Macmillan Company; London: Macmillan and Co., Ltd., 1948.) 25s. net.

THE student approaching the subject of heat must master principles which require a previous background of experiment, and at the same time learn to appreciate a variety of experimental methods demanding a prior understanding of theory. The teacher's business is to make this cycle work irreversibly, and Prof. LeRoy D. Weld's text-book, based on courses of university lectures given during the past thirty-five years, is skilfully arranged to this end. The text, describing a limited number of important experiments, is chiefly an explanation of principles. References for supplementary reading, mostly on modern experimental techniques, are given at the end of each chapter. These, leading the reader to range among selected American periodicals, might perhaps have been classified into groups, for it would have been useful to have the review articles and theoretical discussions distinguished from the purely experimental papers.

The treatments of the kinetic theory of gases and of thermodynamics are particularly instructive, and illustrated with many good numerical examples. Conduction, thermo-electricity, and thermionic emission are grouped together as a study of metals, which does not go into great detail, but concludes with a brief introduction to Fermi-Dirac statistics. A few unfamiliar terms appear. The standard unit volume, useful for critical constant calculations, is named the "suv". Surface emissivity is called "Newtonian radiation coefficient", which is less ambiguous but more misleading. And would the quantum-theory calculations on atomic heats be called "quantum-mechanical methods" to-day?

The author has planned the book with care, and students should find it pleasant and stimulating to work through. It can be recommended as a useful presentation of the theory of the subject, of between intermediate and general-degree standard.

G. R. N.

Isotopenbericht

Tabellarische Übersicht der Eigenschaften der Atomkerne, soweit bis Ende 1948 bekannt. Von Josef Mattauach und Arnold Flammersfeld. (Sonderheft der *Zeitschrift für Naturforschung*.) Pp. 243. (Tübingen: Verlag der *Zeitschrift für Naturforschung*, 1949.) n.p.

THE use of isotopes, stable and radioactive ones, is increasing fast in science, medicine and industry. V. Mattauach and A. Flammersfeld have done an important service to all workers in this field by going critically through a vast amount of literature in order to produce these isotope tables.

While similar tables published by Seeborg and Perlman have been of great use, the authors have gone further by incorporating in their book not only the half-life, radiation details, production methods, abundance and spin of isotopes, but have also added mass-spectrographic measurements, reaction energies of nuclear reactions and activation cross-sections by thermal neutrons. In addition, they have reproduced eighty-three disintegration schemes of isotopes. Most of the literature until the end of 1948 has been incorporated. In some cases, like, for example, iodine-131 and tantalum-182, the radiations taken from the disintegration schemes do not coincide with the

tables in the first part of the book. This seems to be due to last-minute alterations and additions; but in spite of these inconsistencies, the incorporation of these schemes is extremely valuable.

There is no doubt that there will be a big demand for these tables as they are of very great assistance to research workers, and it is only hoped that the tables will be kept up to date as promised in the introduction. It is regretted that the binding of the book may not stand up to the frequent handling to which such an important reference book will be subjected.

HENRY SELIGMAN

The Philosopher's Way

By Jean Wahl. Pp. xiv+334. (New York and London: Oxford University Press, 1948.) 21s. net.

THE purpose of this book, we are told, is not so much to look for solutions as to recognize problems. Such a method, in philosophy, raises the question for whom exactly the author is writing; the answer is, for those who wish to follow the continuity of thought in the light of historical development. The chapters on reality, being, existence and so on are, in effect, descriptions of the positions assumed by the various schools, presented with a clarity to be expected from a French source.

A good feature is the weight accorded to several authorities not commonly read in Great Britain. Borderline cases like the works of Kierkegaard and Husserl (available, but all too seldom consulted) are discussed sufficiently to indicate the profound influence they have had on the progress of knowledge.

A particularly able account is given of the nature of transcendence; in the reviewer's opinion there has seldom, if ever, been a better. The character of this concept may be briefly described as asymptotic; it is always approaching something just beyond our reach, and it is this property which gives it its value.

F. I. G. RAWLINS

The Annual Register

A Review of Public Events at Home and Abroad for the Year 1948. Edited by Ivison S. Macadam, assisted by Hugh James. Pp. xvi + 515. (London, New York and Toronto: Longmans, Green and Co., Ltd., 1949.) 22s. net.

THE present issue of this familiar book of reference marks the hundred and eighty-ninth year of continuous publication. As a survey of the history of the world it has no equal. The editor is assisted by an advisory board of six, nominated by various bodies, including the British Association for the Advancement of Science. Most members of this board, and also a large number of other writers, contribute to the volume, which is thus assured of authoritative articles. The arrangement and scope from year to year differ little. At home and abroad a dominating aspect of the history of 1948 was the challenge of Communism. Part 1 is a full, vivacious and unbiased history of the United Kingdom. It includes a striking chapter on the state of the nation in that trying year. Part 2 deals with the British Commonwealth, and Part 3 with foreign history. Part 4 contains a chronicle of events, some obituaries and reviews of literature, science, the arts, etc. The chapter on science is full and comprehensive and a great improvement on the scope of the review in past years. Several treaties and other public documents are given in full.