

Perkin, footnote 54 on page 277 as well as the author index refer to the son as W. H. Perkins, Jr. *Eheu fugaces*. . . .

College libraries are advised to chain down this volume or to see to it that they have a sufficient supply to meet the anticipated demand.

DEPARTMENT OF CHEMISTRY
BROOKLYN COLLEGE
BROOKLYN 10, NEW YORK

LOUIS SATTLER

instructed by the necessarily brief and sketchy way in which the complex and rather abstruse principles are presented, and he would almost certainly be left with an incorrect idea of the methods currently employed in the approaches to many important problems.

DEPARTMENT OF CHEMISTRY
UNIVERSITY OF CHICAGO
CHICAGO 37, ILLINOIS

G. W. WHELAND

Elementary Wave Mechanics with Applications to Quantum Chemistry. Second Edition. BY W. HEITLER, Professor of Theoretical Physics in the University of Zürich. Oxford University Press, 114 Fifth Avenue, New York 11, N. Y. 1956. viii + 193 pp. 12.5 × 19 cm. Price, \$2.90.

When a book that is as small as this one is deals with the entire field of "elementary quantum mechanics," and when it also considers the "applications to quantum chemistry," many important topics must unavoidably be slighted or entirely ignored. Consequently, the reader cannot expect here to find more than a general introduction to the basic concepts, and he cannot expect to be brought to the point where he is able to make original contributions to the field.

Even within these limitations, however, there is reason to question whether the author has been successful in presenting the material in such a form that it will be helpful to the "chemists and other non-mathematical readers" for whom, according to the Preface, it is designed. The earliest developments of the theory are expounded clearly and well, but almost nothing that has been added since about 1930 is discussed. Valence, for example, is treated entirely with the aid of first-order perturbation theory, and the variation principle is not mentioned at all. The states of the individual atoms in molecules are described in terms of the spectroscopic symbols that are strictly applicable only to isolated atoms. The concepts of resonance and of molecular orbitals are not explicitly mentioned, although some of the basic principles of these concepts are briefly suggested. The Preface gives the impression that the book should be intelligible to the "non-mathematical reader," but this impression is hardly borne out by the fact that a firm understanding of calculus and at least a bowing acquaintance with the theory of determinants are presupposed.

It is difficult to see for what group of readers this book would be valuable. The chemist or physicist who is already familiar with quantum mechanics might find the discussion of the historical background interesting and informative, but he would probably be disappointed by the inadequate way in which the more recent developments are treated. On the other hand, the reader who is encountering the subject for the first time might be more bewildered than

BOOKS RECEIVED

March 10, 1957—April 10, 1957

D. H. DESTY, edited by. Assisted by C. L. A. HARBOURN. "Vapour Phase Chromatography." Proceedings of the Symposium sponsored by the Hydrocarbon Research Group of the Institute of Petroleum held at the Institution of Electrical Engineers, London, on 30th May-1st June, 1956. Academic Press Inc., 111 Fifth Avenue, New York 3, N. Y. 1957. 436 pp. \$12.00.

ROBERT C. ELDERFIELD, edited by. "Heterocyclic Compounds." Volume 6. "Six-Membered Heterocycles Containing Two Hetero Atoms and Their Benzo Derivatives." John Wiley and Sons, Inc., 440 Fourth Avenue, New York 16, N. Y. 1957. 753 pp. \$25.00.

T. J. GRAY, D. P. DETWILER, D. E. RASE, W. G. LAWRENCE, R. R. WEST AND T. J. JENNINGS. "The Defect Solid State." Interscience Publishers, Inc., 250 Fifth Avenue, New York 1, N. Y. 1957. 511 pp. \$11.00.

KENZO HIRAYAMA, DOROTHY U. MIZOGUCHI AND YUICHI YAMAMOTO, Editors-in-Charge. "Nomenclature of Chemical Compounds." Nankōdō Publishing Co., Harukicho, Bunkyo-ku, Tokyo, Japan. 1957. 368 pp. \$4.00.

G. W. C. MILNER. "The Principles and Applications of Polarography and Other Electroanalytical Processes." Longmans, Green and Co., Inc., 55 Fifth Avenue, New York 3, N. Y. 1957. 729 pp. \$17.50.

E. G. RICHARDSON. "Relaxation Spectrometry." Interscience Publishers, Inc., 250 Fifth Avenue, New York 1, N. Y. 1957. 140 pp. \$5.75.

D. R. STULL AND G. C. SINKE. "Thermodynamic Properties of the Elements." Number 18 of the Advances in Chemistry Series Edited by the Staff of *Industrial and Engineering Chemistry*. American Chemical Society, 1155 Sixteenth Street, N. W., Washington 6, D. C. 1956. 234 pp. \$5.00.

A. H. WILSON. "Thermodynamics and Statistical Mechanics." Cambridge University Press, 32 East 57th Street, New York 22, N. Y. 1956. 495 pp. \$9.50.