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 BOOK REVIEW
 

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**Excited States in Chemistry and Biology.** By C. REID, B.Sc., A.R.C.S., Ph.D., F.C.I.C., Professor of Chemistry, University of British Columbia. Academic Press, Inc., Publishers, 111 Fifth Avenue, New York 3, N. Y. 1957. ix + 215 pp. 14.5 × 22 cm. Price, \$7.50.

The publication of this excellent short monograph is another sign of the rapidly growing interest in the excited states of polyatomic molecules. It contains a brief though clear review of the underlying basic principles, a summary of the properties of the triplet state and of the transfer of energy of excitation, as well as an outline of the application of this knowledge to certain areas of biological and chemical interest.

The discussion of basic principles is contained in the second and third chapters and in the five appendices. It is well organized and clearly written but is so condensed that it is difficult reading for anyone who has no previous acquaintance with the material. At the end of the first chapter, the author advises the reader not to "omit the next two chapters." For that majority of biologists and not negligible minority of chemists who are unfamiliar with both the fundamentals of wave mechanics and the necessary mathematical methods, more realistic advice would be, "Abandon hope all ye who enter here."

This book is not for the uninitiate, but should serve as an excellent study outline for students who have some general knowledge of the field. It also should be very useful to biologists who are interested in the physical background of their subject and to physicists or physical chemists who wish to learn how their techniques and knowledge are currently being applied to biological and chemical problems.

As is not surprising in such a rapidly growing area, most students of the subject will not agree with all of the author's opinions nor sympathize entirely with his choice of emphasis in the applications of the theory to complex situations of practical interest. For example, the reviewer was startled to notice that in the discussion of the formation of transannular peroxides (pp. 100-103), no mention is made of Bowen's excellent and extensive studies. It is also surprising that the account of intramolecular energy transfer (pp. 124-125) omits mention of Bannister's clear-cut study of sensitized fluorescence. The book is not free from minor mistakes. On page 89, 4°C. is written for 4°K. In equation 17 (p. 99), [Q] should appear in the denominator. The word *collision* is used on page 100, where most physical chemists would write *encounter*. However, mistakes and omissions of this type do not seriously detract from the real merit and usefulness of the monograph.

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 BOOKS RECEIVED
 

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December 10, 1957—January 10, 1958

K. W. BAGNALL. "Chemistry of the Rare Radioelements. Polonium-Actinium." Academic Press Inc., 111 Fifth Avenue, New York 3, N. Y. 1957. 177 pp. \$5.00.

JAMES G. BECKERLEY, Editor, ROBERT HOFSTADTER, Associate Editor, and LEONARD I. SCHIFF, Associate Editor. "Annual Review of Nuclear Science." Volume 7. Annual Reviews, Inc., Grant Avenue, Palo Alto, California 1957. 496 pp. \$7.00 (U.S.A.), \$7.50 (elsewhere).

HARRY J. DEUEL, JR. "The Lipids. Their Chemistry and Biochemistry." Volume III: "Biochemistry. Biosynthesis, Oxidation, Metabolism, and Nutritional Value." Interscience Publishers, Inc., 250 Fifth Avenue, New York 1, N. Y. 1957. 1065 pp. \$25.00.

G. FOËX, C.-J. GORTER AND L.-J. SMITS. "Tables de Constantes et Données Numériques." No. 7. "Constantes Sélectionnées. Diamagnétisme et Paramagnétisme. Relaxation Paramagnétique." Masson et Cie., 120 Boulevard Saint-Germain, Paris 6e, France. 1957. 317 pp. Broché, 8.800 fr. Cartonné toile, 9.700 fr.

O. R. FRISCH, Editor. "Progress in Nuclear Physics." Volume 6. Pergamon Press, Inc., 122 East 55th Street, New York 22, N. Y. 1957. 297 pp. \$14.00.

THE LATE MAX JAKOB. "Heat Transfer." Volume II. With the technical and editorial assistance of STORIE PETER KEZIOS. John Wiley and Sons, Inc., 440 Fourth Avenue, New York 16, N. Y. 1957. 652 pp. \$15.00.

RAYMOND E. KIRK AND DONALD F. OTHMER, Edited by. ANTHONY STANDEN, Assistant Editor. "Encyclopedia of Chemical Technology." First Supplement Volume. Interscience Publishers, Inc., 250 Fifth Avenue, New York 1, N. Y. 1957. 974 pp. \$25.00.

W. KLYNE. "The Chemistry of the Steroids." Methuen's Monographs on Biochemical Subjects. John Wiley and Sons, Inc., 440 Fourth Avenue, New York 16, N. Y. 1957. 216 pp. \$3.50.

HENRY MCILWAIN. "Chemotherapy and the Central Nervous System." Little, Brown and Company, Boston 6, Massachusetts. 1957. 328 pp. \$10.00.

F. F. NORD, Edited by. "Advances in Enzymology and Related Subjects of Biochemistry." Volume XIX. Interscience Publishers, Inc., 250 Fifth Avenue, New York 1, N. Y. 1957. 457 pp. \$9.85.

GIOVANNI SEMERANO. "Contributi Teorici E Sperimentali di Polarografia." Volume III. "A Cura del Centro di Studio per la Polarografia." Consiglio Nazionale delle Ricerche, Ufficio Pubblicazioni, Piazzale delle scienze n. 7, Rome, Italy. 1957. 567 pp. £. 4.500.

Van Nostrand's Scientific Encyclopedia. Third Edition. D. Van Nostrand Company, Inc., 126 Alexander Street, Princeton, New Jersey. 1958. 1839 pp. \$26.85 until 3/17/58; \$30.00 thereafter.

FRANK J. WELCHER. "The Analytical Uses of Ethylenediamine Tetraacetic Acid." D. Van Nostrand Company, Inc., 126 Alexander Street, Princeton, New Jersey. 1958. 366 pp. \$8.50.

L. ZECHMEISTER. "Fortschritte der Chemie organischer Naturstoffe (Progress in the Chemistry of Organic Natural Products)." Volume XIV. Springer-Verlag, Mölkerbastei 5, Wien I, Austria. 1957. 377 pp. \$16.90, Ganzleinen \$17.85.