

by referring to the Bartelstone, *et al.*, report which certainly is not comprehensive and gives no current information. At the time of the writing, the authors recognized that at least two other stannous fluoride containing dentifrices were being considered and have now received Class B ratings by the Council on Dental Therapeutics of the American Dental Association. While the above comments specifically related to the deficiency in the dental caries section, this does not in any way interfere with the excellence of the text. It is felt that the book will have its greatest acceptance among pharmacologists and toxicologists, the latter group having only minor interest in dental research.

Many outstanding sections appear in the text. Of special interest are the sections relative to the accumulative damage of excessive use of fluoride. The book would appear to provide an excellent background for those workers seriously concerned about accumulative fluoride poisoning, in light of increased interest in communal fluoridation, fluoride dentifrices, fluoride-vitamin preparations, and so forth. While no information exists at the present time that the combined use of fluoride as presently being practiced in the United States is anything but beneficial, one needs to be concerned about such effects as new instrumentation provides more accurate estimation of trace element metabolism.

The authors performed an excellent service in providing this material to workers interested in trace metabolism of inorganic elements. The book is highly recommended as a comprehensive collection of papers devoted to fluoride pharmacology and toxicity and is written by highly competent writers.

Joseph C. Muhler

Indiana University Medical Center
Indianapolis, Indiana 46207

Molecular Photochemistry. By NICHOLAS J. TURRO, Columbia University. W. A. Benjamin, Inc., 1 Park Ave., New York, N. Y. 1965. xiii + 286 pp. 16 × 23.5 cm. \$12.50.

It is a strange fact that although in the last 15 years an impressive increase in interest in photochemistry is evident, very few books on the subject have been published. In particular, textbooks on photochemistry have been as rare as unicorns. It follows that the timing is exactly right for the appearance of this book which is meant to be a text for "an introductory course on photochemistry for advanced undergraduates or first-year graduate students."

The book is divided into ten chapters. The first three chapters discuss general principles, electronic excitation, electronic spectra, and electronically excited states. The next two chapters, which together account for one-third of the book, are on the nature of electronically excited states and electronic energy transfer. The sixth through ninth chapters deal with various photochemical reactions which are classified as photoreduction and related reactions, photochemical rearrangements and isomerizations, photochemical cycloadditions, and photochemical fragmentations and related reactions. A short, final chapter, called miscellaneous topics, seems to have been added as an afterthought. There are problems (and solutions) and a list of references at the end of each chapter, as well as an addendum with more problems and references.

To write a textbook in a rapidly growing field, as organic photochemistry is today, must be one of the most challenging assignments that any author can undertake. The present author has squarely faced the challenge and worked out a method of presentation which may not be to the taste of everyone, but should appeal to most students. He has taken a fairly firm position on points which may seem far from settled to a practitioner in the field. However, this detracts little from the stated purpose of this book. A more serious criticism is the meager space that is allotted to experimental

methods (six pages) while a discussion of lasers, which is an esoteric subject to squeeze into a book of this size and scope, runs to four pages!

The book is very well laid out and printed. In the matter of typographical errors, it must set some kind of record. Fortunately, few of these are in the text itself, but the references are so loaded with them that an interesting game can be made of unscrambling them. In just one list of references, at the end of Chapter 4, there are at least eleven errors and misprints!

This book can be heartily recommended to anyone with a desire to be introduced to organic photochemistry.

R. Srinivasan

IBM Watson Research Center
Yorktown Heights, New York 10598

BOOKS RECEIVED, June 1966

BERNARD S. BAKER, Editor. "Hydrocarbon Fuel Cell Technology." Academic Press Inc., 111 Fifth Ave., New York, N. Y. 1965. 560 pp. \$21.50.

THOMAS PETER BENNETT and EARL FRIEDEN. "Modern Topics in Biochemistry. Structure and Function of Biological Molecules." The Macmillan Co., 60 Fifth Ave., New York, N. Y. 1966. 186 pp. \$2.95.

R. S. BRADLEY, Editor. "Advances in High Pressure Research." Volume 1. Academic Press Inc., Ltd., Berkeley Square House, Berkeley Square, London, W1, England. 1966. 396 pp. 100s.

B. E. CONWAY and R. G. BARRADAS, Editors. "Chemical Physics of Ionic Solutions." John Wiley and Sons, Inc., 605 Third Ave., New York, N. Y. 1966. 622 pp. \$25.00.

WILLIAM H. HAMIL, RUSSELL R. WILLIAMS, JR., and COLIN MAC-KAY. "Principles of Physical Chemistry." 2nd Edition. Prentice-Hall, Inc., Englewood Cliffs, N. J. 1966. 576 pp. \$13.25.

WALTER KAUZMANN. "Thermal Properties of Matter." Volume I. "Kinetic Theory of Gases." W. A. Benjamin, Inc., 1 Park Ave., New York, N. Y. 1966. 248 pp. \$8.50.

JOHN L. KICE and ELLIOT N. MARVELL. "Modern Principles of Organic Chemistry. An Introduction." The Macmillan Co., 60 Fifth Ave., New York, N. Y. 1966. 449 pp. \$8.95.

R. H. MARCHESSAULT, Editor. "Small Angle Scattering from Fibrous and Partially Ordered Systems." Interscience Publishers, John Wiley and Sons, Inc., 605 Third Ave., New York, N. Y. 1966. 165 pp. \$7.00.

T. D. MCKINLEY, K. F. J. HEINRICH, and D. B. WITTRY, Editors. "The Electron Microprobe. Proceedings of the Symposium Sponsored by The Electrothermics and Metallurgy Division, The Electrochemical Society, Washington, D. C., October, 1964." John Wiley and Sons, Inc., 605 Third Ave., New York, N. Y. 1966. 1035 pp. \$27.50.

HERMANN SCHILDKNECHT. "Zone Melting." Verlag Chemie, GmbH, Weinheim/Bergstr., Germany. 1966. 222 pp. \$9.00.

ROSS STEWART. "The Investigation of Organic Reactions." Prentice-Hall, Inc., Englewood Cliffs, N. J. 1966. 125 pp. \$5.50.

JOHN S. WAUGH, Editor. "Advances in Magnetic Resonance." Volume 1. Academic Press Inc., 111 Fifth Ave., New York, N. Y. 1965. 413 pp. \$15.00.