# NEW BOOKS

*edited by F. W. Quackenbush*

BIOLOGICAL PROPERTIES OF THE MAMMALIAN SURFACE MEMBRANE, Lionel A. Manson, Editor (The Wistar Institute Press, 160 pages, 1968, $5).

This book is the product of a symposium on the mammalian surface membrane held at the Wistar Institute of Anatomy and Biology in April of 1967. Twelve presentations are found in the book and these have been grouped into six (6) categories: Isolation, Composition, and Biochemistry; Cytochemistry of Membranes; Lipid Metabolism and Structure; Carbohydrate, Enzymes, etc.; Immunology; Cell-Virus Interactions. It is to be noted that the symposium did not try to deal with the permeability and transport properties of surface membranes. Nevertheless, the symposium was still too broad in scope and failed to cover in sufficient detail the current research of the areas listed above.

The spontaneous discussions triggered by the presentations are recorded *in toto* at the end of each category. These are sometimes found to be very informative.

Several of the papers are well presented and are of considerable interest to the membranologist who deals with the structure and function interrelationships of surface membranes. These notably include: N. G. Anderson's paper on the isolation of rat liver membranes by zonal centrifugation; Marchesi's account of some of the difficulties encountered in localizing the membrane-bound ATPase of surface membranes by electron microscopic cytochemistry; Manson's paper on the H-2-alloantigen content of surface membranes; and McLaren's discussion of the isolation and properties of enterovirus receptors.

This book is a collection of experimental probes—some new, some old—into the biological properties of surface membranes. However, the book would not give the casual reader much insight into these fascinating properties. Therefore, it is most suitable for those intimately involved in membrane research.

ROBERT A. HARRIS
Institute For Enzyme Research
University of Wisconsin
Madison, Wisconsin

INFRA-RED RADIATION, Antonin Vasko, English translation, edited by P. S. Allen (Chemical Rubber Co. Press, 445 pages, Czech edition 1963, English edition 1968, $15.75).

This book is a broad survey of the properties and uses of infrared radiation. Approximately a third is on the basic means for handling infrared radiation, such as sources, detectors, and the general optical properties of materials which transmit, reflect, absorb, and scatter the radiation. This section is well written and informative. About 15% of the book is on the isolation of chosen regions of the infrared, from coarse filters to high-resolution spectral equipment. Many American instruments are included along with the European models. One third of the book is devoted to principles and applications of infrared photography and other means for making an infrared image visible to the eye. This subject is comprehensively covered. On the other hand, only 46 pages are given to spectroscopic uses, 15 pages of which are on nondispersive infrared analyzers and their industrial applications. Consequently very little space is left for the principal scientific application of infrared today. The remainder of the book covers the use of infrared radiation as a means for producing or measuring elevated temperatures.

The book is well organized and well written, in an easy style that requires no more than an elementary knowledge of general physics. It was originally printed in Czechoslovakia and thus has a predominantly European orientation. The book is profusely illustrated by curves, tables and photographs and it is well supplied with references, although American readers will find that about half of them are in foreign languages. This is an excellent guide to foreign literature that is little known in America; however some of the most widely used books on infrared spectroscopy are not included in the bibliography. It should be mentioned that the Brügel monograph frequently cited in the book (Einführung in die Ultrarotspektroskopie) is available in an English translation.

Readers of this journal will find Vasko's book useful if they are interested in the problems of generating or measuring infrared radiation. In addition, a section on the choice of suitable materials for containers that must transmit infrared is included. Those interested in infrared spectroscopy of fats and oils will find the book disappointingly brief on this subject and should turn to more specialized books. Readers interested in infrared photography or image conversion should find the book highly informative.

C. ROLAND EDDY
U.S. Dept. of Agriculture
Eastern Utilization Research & Development Division
600 East Mermaid Lane
Philadelphia, Pa. 19118

ADVANCES IN MACROMOLECULAR CHEMISTRY, Volume 1, edited by Wallace M. Pasika (Academic Press, New York, 432 pp., 1968, $14.00).

The information explosion has increased the demand for reviews in specific areas, because the general field of macromolecular chemistry has expanded to the point in which it is no longer possible for a chemist to be familiar with developments in all portions of even this relatively narrow area. The series, of which this is the first volume, is "intended to become a medium both for reviewing the forefront of macromolecular research and for providing informative reviews on the more established aspects of macromolecular chemistry."

Volume 1 contains reviews on "Ferrocene Polymers," "Popcorn Polymerizations," "Electron Acceptors as Initiators of Charge-Transfer Polymerizations," "Non-Newtonian Viscosity and the Macromolecule," "Solid-State Polymerization," and "Polysulfones: Organic and Physical Chemistry." Each review is accompanied by extensive references. While it is impossible for anyone not working currently in one of these fields to criticize the reviews in detail, they appear to be very extensive. In the words used to describe one of our great newspapers, they are "often dull but never incomplete."

The only criticism this reviewer can offer is that, while the Author Index occupies 17 pages, the Subject Index is contained in 8, which seems out of proportion. A suspicion arises that the latter could be expanded.

FRANCIS SCOFIELD
National Paint, Varnish & Lacquer Association
Washington, D.C.

REVIEWS IN MACROMOLECULAR CHEMISTRY, Vol. 2, edited by G. B. Butler and K. F. O'Driscoll (Marcel Dekker, Inc., New York, 1967, 360 p. $16.50).

Approximately one-third of all American chemists and engineers are directly associated with high polymer chemistry. A section of the "Journal of Macromolecular Science" has been established to present critical reviews of recent advances in the field. Certain reviews from this

(Continued on page 260A)

## • *Local Section News*

### Northeast Section Achievement Award

In 1965 the rules were set down for the Northeast Section Achievement Award, an idea that was developed and nurtured by S. S. Chang, then President of the section, and his officers and directors.

The award is to be given annually to a person in the Northeast Section Area for his outstanding research or service in the field of lipids and all allied and associated products.

**R. W. Riemenschneider**

**Daniel Melnick**

The first recipient was R. W. Riemenschneider, who was presented the award in June 1966 by Dr. Chang. Mr. Riemenschneider received his B.A. degree from the University of Illinois in 1927 and his M.S. degree from the University of Maryland in 1930. During his career he was employed by the U.S. Department of Agriculture, The Bureau of Animal Husbandry, National C. Henseal Products Association on a research fellowship and Eastern Regional Labs from 1941 until his retirement in 1965. He is co-author of 86 publications and has been granted 5 patents. This award was given in recognition of an outstanding career devoted to research dealing with the composition and quality of fats and oils.

**W. C. Ault**

The second annual award was given to Daniel Melnick in Sept. 1967. Dr. Melnick received his bachelor's degree in chemistry and Ph.D. degree in biochemistry from Yale University. After four years of post doctorate research at Yale and at the University of Michigan, he worked at Fund Research Labs in New York. Dr. Melnick is certified as a specialist in Human Nutrition by the American Board of Nutrition and is a member of the National Research Council Committee. The award was presented by Frank Naughton in recognition of Dr. Melnick's outstanding contributions in research on fats and oils. Dr. Melnick is the author of about 145 scientific publications 40 of which are U.S. patents.

The recipient of the third annual award was W. C. Ault. It was presented to him by August Rossetto in November 1968. Dr. Ault was educated at Ohio State University and received his Ph.D. in 1934. He is the author of 70 publications and 20 patents. He was for a number of years Adjutant Professor of Chemistry at Drexel Institute of Tech. He worked at United Gas Improvement Company, Monsanto Chemical Co. and U.S.D.A. Northern Regional Labs before coming to Eastern Utilization Research Labs. Dr. Ault has received many awards as a U.S.D.A. scientist. Before his retirement, he was chief of the Animal Fat Products Lab of the Department of Agriculture's Eastern Utilization Research and Development Division in Wyndmoor, Pa. The Northeast Achievement Award was given in recognition of his outstanding contributions to the field of fats and oils through research and industrial development.

Deadline for nominations for this year's Achievement Award is May 31, 1969.

---

## • *New Books . . .*

(Continued from page 256A)

section, "Reviews in Macromolecular Chemistry," are being published annually in book form.

The first half of this particular version is an especially thorough review, through part of 1966, of phosphorus containing polymers. Although a great number of polymers (organic and inorganic, with phosphorus on side groups and in the main chain) have been synthesized, commercial utility has been limited due to instability and/or cost. The other half of the book reviews polyesterification, symmetry considerations for stereoregular polymers, copolymerizations of vinyl compounds with ring compounds, the application of high resolution NMR to determination of polymer structure, polymer single crystals and thermal degradation of polystyrene.

The Reviews are of direct value to polymer chemists and certain of the Reviews are of possible value to biochemists and biophysicists. This book could offer the purchaser a fully indexed, durable addition to his library. The Subject Index is poor, however, and is little more than a relisting of the Table of Contents. It should be expanded to justify the purchase of such a book.

C. L. Smart
Celanese Corporation
Summit, New Jersey

Reduction: Techniques and Applications in Organic Synthesis, edited by Robert L. Augustine (Marcel Dekker, Inc., New York, 242 pp., 1968, $12.75).

This book is the second volume of a projected series on "Techniques and Applications in Organic Synthesis" under the editorship of Robert L. Augustine, Seton Hall University. It contains three chapters: 1. The Chemistry of the Mixed Hydrides, by Mark N. Rerick of Providence College; 2. Dissolving Metal Reductions, by Michael Smith, Geigy Chemical Corporation; 3. Deoxygenation of Carbonyl Compounds, by William Reusch, Michigan State University.

Chapter 1 discusses the chemistry of the mixed hydrides (addends of lithium aluminum hydride and sodium borohydride) and describes reduction techniques, apparatus required, limitations of the methods and possible side-reactions. This is followed by a description in detail of the reduction of specific organic functional groups covering a broad range from hydrocarbons (olefins) to sulfur compounds.

Chapter 2 follows much the same arrangement of material in describing the chemistry and application of Metal-Ammonia and Metal-Amine reagents.

Chapter 3 describes the Wolff-Kishner and Clemmensen reduction techniques. Included is a description of the use of Raney Nickel in desulfurization.

This is an excellent book and a worth while addition to the chemical literature. A 12 page Subject Index and 17 page Author Index facilitate locating a particular item or literature reference.

Practicing chemists engaged in organic synthesis will find the information in this book invaluable and stimulating. It can be recommended to the attention of all chemists wishing to utilize the most effective methods of reduction applicable to organic compounds.

E. W. Blank
Edison, N.J. 08817