

Advances in Pharmacology. Volume 4. Edited by SILVIO GARRATTINI and PARKHURST A. SHORE. Academic Press Inc., New York and London. 1966. viii + 390 pp. 23.5 × 16 cm. \$16.00.

This volume contains five reviews covering the literature through 1965, *i.e.*, Hypotensive Peptides: bradykinin, kallidin, and eledoisin, by E. G. Erdős; Uricosuric Drugs, with special reference to probenecid and sulfapyrazone, by A. B. Gutman; Synthetic Antiinflammatory Drugs: concepts of their mode of action, by R. Domienjcz; Biochemistry of Drug Oxidation and Reduction by enzymes in hepatic endoplasmic reticulum, by J. P. Gillette; and Experimental and Clinical Chemoteratogenesis, by R. L. Cahen. All these topics are treated in depth and their scope, biochemically oriented, goes well beyond that of other reviews on the same subjects. Even the most biologically biased article on teratogenesis makes good and understandable reading for chemists. Indeed, it is the first survey on teratogenesis this reviewer has seen which discusses the field, its history, and its outlook dispassionately and quotes references accurately, giving credit to scientific findings and deleting journalistic and administrative implications. The editors have carefully checked chemical nomenclature and formulas which so often are treated loosely by biologists. Authors and subject indexes are excellent and remarkably free of errors.

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ALFRED BURGER

Drug Abuse: Escape to Nowhere. A Guide for Educators.

Published by Smith Kline and French Laboratories, Philadelphia, Pa., for the National Education Association, Washington, D.C. 1967. 104 pp + a drug abuse reference chart. 15 × 23 cm. Paperback, \$2.00.

Realizing the increasing spread of the abuse of psychopharmacological pure and botanical drugs especially among young people, a leading manufacturer of amphetamines and barbiturates has published this small book as a guide for teachers, educators, and counsellors who might turn their young wards back from a path of mental and the often ensuing criminal consequences of their drug habits. The book traces the history of drug abuse, addiction, and habituation. It recommends methods of rehabilitation and therapy and shows how the educator can deal with the drug abuser at different age levels and identify him. Even a glossary of slang terms is included. The drug abuse reference chart should simplify many tasks of the educator and give him an understanding of the underlying problems of the victim of drug abuse.

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ALFRED BURGER

Two New Books on the Studies of Plants and Plant Products:

1. **Useful Plants of Brazil.** By WALTER B. MORS and CARLOS T. RIZZINI. Holden-Day Inc., San Francisco, Calif. 1966. xiii + 166 pp. 14.8 × 23.5 cm. \$10.00. 2. **A Textbook of Pharmacognosy.** By G. E. TREASE and W. C. EVANS. 9th ed, Baillière, Tindall and Cassell, London. 1966. viii + 821 pp. 14.5 × 21.5 cm. \$14.50.

The chemist with an interest in botanical drugs will find both of these books useful. Both give an historical background of their stated purpose, offer help in taxonomy and botanical nomenclature, and carry extensive descriptive material on the plants and their processing. The small book on Brazilian plants classifies the bioclimatic conditions of that country and relates them to the habitat of its economic plants. Since not all economic plants contain materials useful in medicine, only a limited amount of the information in this book is of direct interest to readers of this journal. Nevertheless, one's view will be broadened by learning about the rubber tree, dye plants, and useful and ornamental woods.

The textbook by Trease and Evans, in this 9th edition, has placed more emphasis on phytochemistry, biosynthetic pathways of medicinal plant products, modern methods of isolation and assay, and the analysis of these substances. The cultivation of medicinal plants, plant genetics, vegetable drugs, and a short

section on animal products of use in medicine hold prominent places in the descriptive sections. The level of presentation swings from one for beginners to pages which are complex and have to be read over to be grasped.

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ALFRED BURGER

Advances in Alicyclic Chemistry. Volume 1. Edited by HAROLD HART and G. J. KARABATSOS, Department of Chemistry, Michigan State University, East Lansing, Michigan. Academic Press Inc., New York, N. Y. 1966. x + 395 pp. 16 × 23.5 cm. \$16.50.

This series is intended by its editors to serve research workers in organic chemistry with critical reviews of topics of current interest presented within the general framework of alicyclic chemistry. The series will, however, be of value to all, in that the results of research efforts in this area achieve currency in such diverse fields as natural products, organic photochemistry, conformational and strain effects on reaction rates, and the nature of carbon bonding orbital hybridization.

Volume 1 consists of five chapters which vary in length from 25 pages (Photochemistry of Tropolones by K. F. Koch) to 126 pages (Cyclohexadienones by A. J. Waring). The other three chapters, Bicyclo[*n*.1.1]alkanes and Related Tricyclic Systems by J. Meinwald and Y. C. Meinwald (50 pages), Cyclopropenes by G. L. Closs (78 pages), and Bridgehead Reactivity by R. C. Fort, Jr., and P. von R. Schleyer (87 pages), are the best in the book. These chapters are significant contributions to the literature of organic chemistry in that the authors not only have coordinated and presented the facts in a coherent fashion but have offered original suggestions regarding their interpretation.

The chapter by Professor Koch suffers from the restrictions imposed on its content. As a result, much of the material is concerned with structure proof of the photoproducts and includes at one point duplicate presentation, both in narrative and tabular form, of some rather straightforward nmr spectra. In the reviewer's opinion this topic would better be included either as part of a general treatment of tropolone chemistry or of photochemistry of medium-ring ketones.

This is an excellent first volume in what promises to be an excellent series. The relatively high cost may limit its distribution to libraries and researchers actively participating in some of the fields reviewed, but it should be widely read by all organic chemists because of the fundamental nature of many of the concepts which it covers. The chapter by Professors Fort and Schleyer in particular should be required reading for students studying organic reaction mechanisms at the advanced undergraduate and graduate level.

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FRANCIS A. CAREY

Russian Drug Index. Edited by STANLEY JABLONSKI. 2nd, ed. U. S. Department of Health, Education and Welfare Superintendent of Documents, U. S. Govt. Printing Office, Washington, D. C. 20402. iii + 384 pp. 21.5 × 28 cm. Paperback, \$2.25.

Despite the increased efforts by the World Health Organization to report adverse drug reactions and the development of information retrieval systems, many difficulties to which the first edition of the Russian Drug Index addressed itself still remain. Terminology of crude drugs and mixtures has not been standardized adequately, and language barriers have extended this problem to chemical compounds as well. Too few American scientists are familiar with the Russian language, and those who are find a lack of access to original literature sources. The present volume tries to help us in the field of drugs to overcome some of these problems. There are 1800 main entries, and 3700 cross-references to synonyms. Structural formulas have been standardized and *Chemical Abstracts* nomenclature has been introduced.

There are three main sections. The Drug Index arranges the main entries under the Anglicized Russian names, synonyms and code names, transliterated Russian names, trivial and proprietary

names, molecular formulas, a brief description of drug properties, and an American bibliographic reference where available. The Pharmacological Index identifies chemicals with related pharmacological properties; the Index Medicus provides subject headings under which the individual drugs are listed, but applies only to the 1967 edition of its American counterpart.

Those interested in Soviet medicine will find this Index invaluable. Any medicinal chemist will recognize, among the entries, old friends in new quite sensible names.

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ALFRED BURGER

Index to Reviews, Symposia Volumes and Monographs in Organic Chemistry for the Period 1963-1964. Compiled and Edited by NORMAN KHARASCH and WALTER WOLF, University of Southern California at Los Angeles. Pergamon Press Ltd., Oxford, England. 1966. xx + 326 pp. 22 × 28.5 cm. \$17.50.

This volume, the third of the "Index" series, covers the literature for the period 1963-1964. The growth of the literature of organic chemistry is reflected by the number of entries in this volume which contains about 20% more than the previous one. Searches become more tedious and time consuming with the increasing size of the literature, hence a volume such as this is a welcomed aid. The Index is limited to works in the English, French, and German languages. However, Russian reviews which have been translated into English are included in this issue. The accuracy of the references and author and subject indexes as determined by checking random selections is superior. The editors have continued the helpful tradition of listing current addresses of publishers. This book should be of value not only to students and researchers, but also to technical librarians, writers, and bibliographers. The Index series will probably become the starting point for many literature searches in organic chemistry. Every library which serves organic chemists should have this series.

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DAVID W. BOYKIN, JR.

Glass Electrodes for Hydrogen and Other Cations. Principles and Practice. Edited by GEORGE EISENMAN, University of Chicago. Marcel Dekker, Inc., New York, N. Y. 1967. xii + 582 pp. 17 × 23 cm.

It has become apparent in recent years that the familiar pH glass electrode represents only an extreme example of a family of glass compositions which can be varied to respond selectively to ions other than H⁺. Hence, this book, which is about 40% theoretical and 60% practical, is a timely reference work for scientists interested in the electrometric measurement of ion activities. Dr. Eisenman has carefully edited contributions by 21 investigators from laboratories all over the world and, in addition, has himself contributed four important chapters. They describe in great detail the glass electrodes that are available commercially, the construction of glass electrodes for special purposes, tricks of the trade in measuring cations in mixtures, uses of glass electrodes in analytical chemistry, in soil studies, in analysis of biological fluids both *in vitro* and *in vivo*, and the design and use of microelectrodes for intracellular use. The final chapter summarizes the numerous clinical applications of cation-sensitive glass electrodes. Since the measurement of ionic concentration or activities by glass electrodes in many situations now exceeds other methods in precision and accuracy, this up-to-date book is recommended to engineers, chemists, and biologists, including those involved in medical research, who are not yet familiar with these techniques and applications.

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D. R. H. GOURLEY

Enzyme and Metabolic Inhibitors. Volumes II and III. By J. LEYDEN WEBB. Academic Press Inc., New York, N. Y. 1966. Vol. II: xx + 1237 pp. \$34.00. Vol. III: xx + 1028 pp. \$32.00.

One's first reaction to these all-encompassing volumes on Enzyme and Metabolic Inhibitors is "How could one man, in a lifetime, read most of the papers dealing with inhibitors, collate all of the data, and summarize it for ready reference?" The answer is he couldn't, for Professor J. Leyden Webb died before completing Volumes IV and V of this series. We hope that someone will take up the task of writing these two volumes, for they were to have treated some of the most interesting and useful metabolic inhibitors.

The first volume of this series dealt with "General Principles of Enzyme Inhibition" and Volume II begins the discussion of specific inhibitory agents. Appropriately, it opens with a chapter on malonate. The discovery by Quastel and Wooldridge in 1927 that succinic dehydrogenase was competitively inhibited by the next smaller homolog of its substrate played an important part in formulating the concept of antimetabolites combining specifically with active sites of enzymes. Each chapter treats the historical developments and the physical and chemical properties of the inhibitor before discussing the inhibitory phenomena. The nearly 300 pages of Chapter 2 deal with a potpourri of analogs of enzyme reaction components and this is followed by individual chapters on Dehydroacetates, Sulfhydryl Reagents, Oxidants, *o*-Iodosobenzoate, and Mercurials.

The quality of the presentation varies considerably in different parts of the book. Occasionally keen insight is displayed regarding the mode of action of specific inhibitors, and there are some excellent sections where precautions in interpretation of results with inhibitors are carefully brought to the reader's attention. But, in many places the text rambles on at great length about irrelevancies. For example, there is a huge table reporting the per cent inhibition of respiration by various concentrations of malonate with tissues, cells, or particles from scores of organisms and with ten different substrates. Far more valuable is a quarter-page, three-column table reporting the *K_i* for malonate with succinic dehydrogenases from various sources.

These volumes invite comparison with the two-volume "Metabolic Inhibitors, A Comprehensive Treatise" edited by R. M. Hochster and J. H. Quastel for the same publisher only 3 years earlier. I prefer the order, authoritative treatment, and conciseness of the multi-authored work.

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HENRY A. LARDY

Quelques Aspects de la Chimie des Médicaments. By ALBERT and CHARLES LESPAGNOL, DENISE BAR, and MICHEL DAUTREVAUX. Masson et Cie., Editors, Paris. 1966. viii + 268 pp. 16 × 24 cm. Paperback, 78 Francs.

The aspects of drug chemistry treated in this book are essentially the organic-preparative methods by which selected numbers and types of drugs have been synthesized. The methods chosen are published procedures; many of them are outdated and do not agree with current manufacturing processes. The drugs are classified by schemes that would puzzle pharmacologists. Biological information shifts from dosage regimes to loose descriptions of the activity, with only occasional reference to the mechanism of drug action. Even for natural products the authors steer squarely to synthetic considerations. Drug metabolism is not dealt with. The scope of this book is reminiscent of some German books on drugs about 35 years ago. It is hard to believe it has been written in 1966.

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