

Book Reviews

Selective 5-HT Reuptake Inhibitors: Novel or Commonplace Agents. Edited by M. Gastpar and J. S. Wakelin. Karger Press, Basel, 1988. 107 pp. 17.5 × 24.5 cm. ISBN 3-8055-4776-5. \$65.00.

This is Volume 17 of the *Advances in Biological Psychiatry* series and represents a collection of papers presented at a symposium at the December 1986 CINP meeting. The information has been updated to include the literature published up to the Spring of 1987. The book contains nine chapters written by authorities in the field of 5-HT reuptake blockers. The first chapter considers the effect of acute and long-term antidepressant treatment on 5-HT neurotransmission, and the next three chapters discuss the effect of selective reuptake blockers in human subjects. Chapter five deals with nosological versus functional interpretations of the role of 5-HT in psychiatric disorders. Chapters six and seven review 5-HT reuptake inhibitors as antidepressants and the role of 5-HT in depression and suicide. The final two chapters deal with other clinical indications for these agents, including their use in the treatment of anxiety disorders. Well written and useful though it may be, this book is best read at the library and used for reference purposes. It is perhaps best suited to the clinically oriented and is not the type of book that a typical medicinal chemist would keep on their desk.

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Free Radicals in Chemistry and Biology. Edited by Milan Lazar, Jozef Rychly, Viliam Klimo, Peter Pelikan, and Ladislav Valko. CRC Press, Boca Raton, FL, 1989. 304 pp. 18 × 26 cm. ISBN 0-8493-5387-4. \$135.00.

This book represents a comprehensive presentation of free radicals in chemistry and would therefore be an invaluable asset to medicinal chemists in this area of research. As the authors point out in the introductory chapter, since the discovery of free radicals early in this century, acceptance of the free radical theory has met with much opposition. It was not until the 1940s and the discovery of electron spin resonance that free radicals could be measured. In the following decades, chemists used this technology to characterize the reactivity of free radicals and define their role in elementary and chain reactions. This book provides, in extreme detail, a comprehensive description of the generation of free radicals, a description of the types of reactions in which they participate, and lastly a brief comment on the implication of free radicals in biology. Some chapters deal specifically with elementary reactions of free radicals, the reactivity of specific free radicals, nonchain reactions, nonbranched and branched chain reactions, and oscillatory reactions. These chapters make up the bulk of the book and are filled with numerous schemes and tables which therefore provide a compendium of data for chemists involved in free radical chemistry.

The final three chapters are relatively brief in comparison to the wealth of information presented in the previous chapters. One of the three deals with chemical lasers, the second deals with free radicals in biochemistry, and the final chapter deals with free radicals in the atmosphere and interstellar matter, which provides for an unusual and thought provoking close to a fine text.

The book is well organized with logically arranged chapters and an extensive table of contents which allows the readers to rapidly identify a section of interest. The only fault one may find is that the references are slightly out dated, the most recent being from 1986. The authors, being chemists, focused on the chemistry of free radicals and as such the book may be of only peripheral interest to biologists or pharmacologists. Conversely, both the novice and experienced medicinal chemist, alike, working in

development of biologically active free radical scavengers will benefit from the insight this book offers.

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Nonsteroidal Anti-Inflammatory Drugs. Volume 2, Pharmacology and the Skin. Edited by Nicolas J. Lowe and Christopher N. Hensby. Karger, Basel, 1989. viii + 158 pp. 17.5 × 24.5 cm. ISBN 3-8055-4898-2. \$99.50.

This very thin book is composed of 8 chapters which review the actions of nonsteroidal antiinflammatory drugs in skin and methods for evaluation of candidate compounds. The first chapter attempts to outline the various processes leading to inflammation with particular reference to reactive oxygen species. Unfortunately, it is quite disorganized, with brief excursions from oxygen metabolism to other processes and back again. It is a poor introduction, since the remainder of the book focuses largely on eicosanoid synthesis and cell migration.

The second chapter, on topical formulations for antiinflammatory drugs, is useful, especially for those of us who must occasionally deal with the problem of formulation but have never taken a course on the subject. It is complemented by excellent diagrams and tables. However, it probably should have been located at the end of the book, especially as the following chapters describe experiments that use acetone as the drug vehicle.

There is one gem: the chapter by Daniel Cavey on *in vitro* models for evaluation of antiinflammatory agents. It covers the area in depth and includes several instructive examples from the author's laboratory. The references cited are extensive and up-to-date. It is particularly interesting that Cavey suggests several new targets for the development of novel therapeutic agents.

The next chapter describes the effects of antiinflammatory drugs in human skin. It contains useful descriptions of skin windows and similar techniques, but is presented in a listlike fashion. This is followed by a short chapter discussing antiinflammatory drug action on skin blood vessels. The two editors of the volume contribute chapters describing *in vivo* models for candidate drug evaluation. Neither is extensive and, unfortunately, each laboratory uses similar models. Thus, the chapters are quite similar, the second being particularly sketchy. The book ends with a short summary of adverse cutaneous reactions to antiinflammatory drugs.

The book is largely disappointing. Several of the chapters are organized as series of anecdotes, leaving gaps in coverage. Even at half the price, this book would be no bargain, but do read Cavey's chapter in the institutional library.

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Elastin and Elastases. Volume I. Edited by Ladislav Robert and William Hornebeck. CRC Press, Boca Raton, FL, 1989. xii + 213 pp. 18 × 26 cm. ISBN 0-8493-6428-0. \$149.00.

Our detailed knowledge of elastin and its structure, biosynthesis, and molecular biology remains meager. Clearly with the appearance of molecular biology in matrix biology during the past several years and the intense interest in this area, studies of elastic tissues and advancement of our knowledge of this intriguing protein may be expected to advance rapidly in the near future. These considerations led the editors of this volume to conclude that it would be useful to collect and summarize present knowledge on this protein as well as on enzymes involved in its degradation. Such an overview was viewed as particularly important because of the large number of disease conditions such as cardiovascular diseases, pulmonary diseases, osteoarthritic diseases and others

that are related to elastic tissues and elastase-type enzymes.

In Volume I the editors and 38 contributors address elastin, its morphology and ultrastructure, biochemical properties, and elastic fibers in cell-matrix interactions in a detailed, comprehensive, and up-to-date fashion. Excellent author and subject indexes are included. For most medicinal chemists, however, this volume will be of only limited interest. It will be valuable to specialists in the field and as an introduction to Volume II, which will focus on aspects of elastase, a topic likely to be of greater relevance to medicinal chemists.

Staff

Organic Syntheses. Volume 66. Edited by Clayton H. Heathcock. John Wiley & Sons, Inc., New York. 1988. xix + 265 pp. 15.5 × 23.5 cm. ISBN 0-471-61972-8. \$29.95.

This is the hard-cover edition of volume 66 of *Organic Synthesis* and is intended for a library collection. It differs from the soft-cover personal copy received by members of the Organic Division of the American Chemical Society only by the inclusion of an author and subject index. These indexes are cumulative from the annual volume 65, since they will be included in the second five-year version (volumes 65–69) of the new *Collective Volume* series.

This volume reflects recent advances in synthetic organic chemistry, illustrating 28 preparative methods. By classification of these entries, it appears that the preparation of synthetic building blocks predominates. The types range from the preparation of a [3 + 2] annulation reagent, 1-methyl-1-(trimethylsilyl)allene, to the multipurpose building block (1-oxo-2-propenyl)trimethylsilane. Other examples are ethyl α -(hydroxymethyl)acrylate, a precursor of α -methylene lactones and lactams, and ethyl cyclopropylpropionate, a C₅ building block for the preparation of α,β -acetylenic acids. Two examples of chiral building blocks are the sequential preparations of (*S*)-2-chloroalkanoic acids from amino acids, useful in the preparation of chiral alcohols, and the related (*R*)-alkyloxiranes, precursors of chiral diols, amino alcohols, etc.

Some modern applications of name reactions are also included. The preparation of (*E,Z*)-2,4-dienoic esters is initiated by an ortho-ester Claisen rearrangement followed by alumina-catalyzed isomerization. Another example of the Claisen rearrangement offers an improved method for the preparation of α -unsubstituted γ,δ -unsaturated aldehydes. The Beckmann rearrangement is represented by a streamlined synthesis of ring expanded α -alkylated amines by reductive alkylation of oxime sulfonates. Several examples of the Michael reaction are represented which also demonstrate the employment of metals, such as in the copper-catalyzed conjugate addition of a zinc homoenolate. Other examples of metal-mediated reactions are the preparation of ketones by copper catalyzed addition of a Grignard to an acyl chloride and an alkyne-generated vinyl radical cyclization in the presence of tri-*n*-butyltin hydride. Two examples of palladium-catalyzed cross-coupling reactions describe the preparation of biaryls and the stereoselective synthesis of conjugated dienes.

As expected, these preparations do not represent the cutting edge of organic synthesis, but they represent a collection of reliable modern synthetic methods described in great detail, many of which could be modified for individual applications. A practicing synthetic organic/medicinal chemist should have access to this volume whether it is in his own personal library or in a nearby technical library.

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Solvents and Solvent Effects in Organic Chemistry. By Christian Reichardt. VCH Publishers, New York. 1988. xxii + 534 pp. 17.5 × 24 cm. ISBN 0-89573-684-5. \$98.00.

This book covers the topic of solvents in organic chemistry in extensive detail. The initial two chapters serve as an introduction: the first reviews the fundamental forces governing solute-solvent interactions such as dipole-dipole forces, hydrogen bonding, and

solvophobic interactions; and the second covers the various ways to classify solvents and includes a discussion of the Brønsted-Lowry and Lewis theories of acids and bases. These are followed by chapters which delve more deeply into the study of solvent effects on the position of homogeneous chemical equilibria, on the rate of homogeneous chemical reactions, and on the absorption spectra of organic compounds. Finally there is a chapter on the empirical parameters of solvent polarity.

In general, the book is well-written and the graphs and equations are presented in a clear fashion. References have been updated since the first edition (1979). In the text of the book, solvent effects are discussed in detail with an emphasis on physical organic chemistry concepts. What medicinal chemists will find more useful are the appendix tables, which include lists of chiral solvents; spectroscopic solvents; and solvents for reaction media, recrystallization, extraction and partitioning, adsorption chromatography, and electrochemistry. Also covered are methods for solvent purification and toxicity of organic solvents. Although most medicinal chemists will not find it necessary to have a personal copy of this book, it is recommended for purchase by libraries because of its comprehensive treatment of the subject matter and its useful appendices.

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Biotransformations in Preparative Organic Chemistry. The Use of Isolated Enzymes and Whole Cell Systems in Synthesis. By H. G. Davies, R. H. Green, D. R. Kelly, and Stanley M. Roberts. Academic Press, New York. 1989. xii + 268 pp. 15 × 23 cm. ISBN 0-12-206230-2. \$39.95.

This is the latest book in the *Best Synthetic Methods* series edited by A. R. Katritzky, O. Meth-Cohn, and C. W. Rees. The series is dedicated to filling a need for concise treatment of various synthetic topics from a practical point of view that will teach the reader how to apply new synthetic procedures effectively. The present book treats an increasingly applied method of synthesis, i.e., biotransformations, in such a manner. It is divided into five chapters: (1) biotransformations—introduction and background information, (2) hydrolysis and condensation reactions, (3) enzyme catalyzed reactions, (4) oxidation reactions, and (5) other biotransformations, which include reactions involving the formation of a carbon-carbon bond, carbohydrate, nucleoside, and nucleotide chemistry, preparation and reactions of amino acids, formation of haloalcohols and dihalides, and O- and N-dealkylation. As with other books in the series, this contains many preparative descriptions, practical hints, and detailed information, i.e. it gives the information needed to smooth the path of synthetic chemists into unfamiliar territory.

The authors have distilled from the literature important aspects in the burgeoning field of biotransformations, i.e. the use of microorganisms and/or isolated, partially purified enzymes, in both large- and small-scale organic syntheses. References are up-to-date and the index is comprehensive. This book is highly recommended for all chemists concerned with organic chemical synthesis.

Staff

The Flavonoids-Advances in Research Since 1980. Edited by Jeffrey B. Harborne. Chapman and Hall, New York. 1988. xiv + 621 pp. 19.5 × 25.5 cm. ISBN 0-412-28770-6. \$247.50.

This book is the latest in a series which began in 1975 with the publication of the classic *The Flavonoids* and continued with the publication in 1982 of *The Flavonoids: Advances in Research*, both edited by Jeffrey Harborne and Tom Mabry. This latest entry, edited by Harborne alone, provides a detailed review of research in this active area covering a five-year period, 1981–1985. Individual chapters have been contributed by 19 experts active in the field. The first 10 chapters describe individual structural subtypes and the remaining six chapters discuss more global considerations such as biosynthesis, distribution, evolutionary significance and color contributions. Each chapter is thoroughly written and carefully referenced and I judge these chapters to

be of very high quality. The frequent appearance of judgmental statements and global remarks demonstrate that the work is far from being an annotated bibliography and the uniformity of style and evenness of presentation reflects a careful editing job. The chapters are self-standing and do not require reference back to the earlier volumes in order to be useful or understandable. Much of the data is presented in tabular form and extensive use has been made of clearly drawn formulae. The book makes a handsome impression, the text is easily readable, and the paper and binding are such that a substantial shelf life can be anticipated. Flavonoids possess a wide range of biological activities, although their potencies are often disappointing, so medicinal chemists are more and more taking an interest in these substances. Bioresults are not emphasized in this work but are clearly noted and referenced. No medicinal or natural products chemist interested in these substances can afford not to have access to this collection of books.

The thoroughness of coverage and the intensity of work in this area has resulted in a book of over 600 pages even using relatively small type. The field clearly shows signs of growth to dimensions which may soon defy this kind of thoughtful and thorough review even with the judicious decision to restrict coverage to five years. Further, the cost is already beyond the point where many individuals will be able to purchase this book from their own salaries regardless of their level of interest. I relate these thoughts with sadness as this work is outstanding and deserves a wider circulation than will be its fate. It is certainly to be hoped that these practical considerations do not prevent the preparation of a fourth volume. Do at least see that your library has a copy of this one.

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Sulphur-Containing Drugs and Related Organic Compounds. Chemistry, Biochemistry and Toxicology. Volume 1. Part A. Metabolism of Sulphur Functional Groups. Edited by L. A. Damani. Halsted Press, New York. 1989. 17 × 24.5 cm. ISBN 0-470-21257-8. \$89.95.

This is an addition to the Ellis Horwood Series in Biochemical Pharmacology. *Sulphur-Containing Drugs and Related Organic Compounds* is a three-volume work aimed at organizing all material on sulfur xenochemistry into a single "reference library." Part A begins with an editorial introduction that outlines the main features of organosulfur compounds in biochemical processes and illustrates the shift in research emphasis in recent years to exogenous synthetic organic compounds for use in medicine, agriculture, and industry. It also deals with the importance and uses of sulfur xenobiotics and surveys the metabolism of inorganic sulfur compounds as well as thioethers, thiols, and disulfides.

Topics are uniformly treated in a very thorough fashion with up-to-date references and an adequate index. The book will be of interest to medicinal chemists concerned with sulfur-containing compounds; however, it is only part A of a three-volume set. Therefore, much territory remains to be collated. With anticipation of three two-part volumes, the price of the entire set will likely limit it to institutional libraries.

Staff

Psychopharmacology. An Introduction. Second Edition

By René Spiegel. Wiley, New York. 1989. xvi + 275 pp. 15 × 23 cm. ISBN 0-471-92044-4. \$41.95.

This is a thorough revision of the first edition, which was originally published in 1981. It describes the topic of psychopharmacology in a concise, easily read fashion that deliberately avoids specialist jargon and technical details as much as possible. The first chapter "Modern psychopharmaceuticals" defines and classifies these agents, outlines the best known products and their differences, describes clinical actions and side effects. Remaining chapters describe the history of psychopharmacology, effects of psychopharmaceuticals on healthy subjects, studies with neuro-

physiological methods in human psychiatry, mechanisms of action of these agents, clinical research in psychopharmacology, drugs and memory, psychopharmaceuticals and the treatment of mental disorders, and concludes with an epilogue.

The emphasis of this book is on the clinical and psychological aspects of psychopharmacology and to a lesser extent on neurobiological and pharmacological topics. It is intended for psychologists, psychiatrists, and members of other professions dealing with patients and clients who are prescribed psychotherapeutic medication. It will be of interest as general background reading to medicinal chemists involved in central nervous system research.

Staff

Neuromethods. 13. Psychopharmacology. Edited by Alan A. Boulton, Glen B. Baker, and Andrew J. Greenshaw. Humana Press, Clifton, NJ. xxiv + 821 pp. 15 × 23 cm. ISBN 0-89603-129-2. \$99.50.

This latest volume of Boulton and Baker's *Neuromethods* series examines virtually all effects of drugs on behavior. It covers a broad range of methodology representative of nearly the entire scope of psychopharmacology for conscious animals. Consistent with other volumes in the series, this consists of a compilation of reviews written by international experts in their fields. In this volume the practical applications of research design and methodology in psychopharmacology are reviewed. Topics include motor asymmetries and drug effects; effects of drugs on nociceptive responses; specificity of drug effects on feeding; effects of drugs on drinking, learning, and social behavior; operant behavior and centrally acting drugs; drug self-administration; conditioned drug effects on spatial preference; drug effects on behaviors maintained by electrical brain stimulation; discrimination learning with drug stimuli; behavioral techniques for measuring drug tolerance and sensitization; and neurochemical correlates of operant behavior.

As with other volumes in the series, each monograph is followed by a comprehensive, up-to-date list of references. The book also includes an excellent subject and author index. It should serve as an extremely useful source and reference text for those concerned with the application of psychopharmacology methods.

Staff

Trends in Medicinal Chemistry. Edited by H. Van der Goot, G. Domány, and H. Timmerman. Elsevier Science Publishing Inc., New York. 1989. xii + 860 pp. 16.5 × 24 cm. ISBN 0-444-87380-5. \$258.00.

This book, volume 12 of the Pharmacology Library series edited by H. Timmerman, is a collection of the plenary and main lectures presented at the Xth International Symposium on Medicinal Chemistry, which was held in Budapest, August 15-19, 1988. The editors and authors are to be commended for cooperating to have this volume available in less than a year following the symposium.

The volume contains a subject index and 47 chapters varying from 8-32 pages in length, virtually all containing summaries, and covering topics such as molecular modeling, receptor agonists and antagonists (histamine, gastrin, cholecystokinin, platelet activating factor, benzodiazepine, serotonin, dopamine, GABA, glutamate, muscarine, leukotriene), and enzyme inhibitors (5-lipoxygenase, MAO-1, HMG-CoA reductase, aromatase). There are also chapters on diverse topics including ophthalmic drugs, carbanions, indole alkaloids, antidepressants, noncataleptic neuroleptics, cannabinoids, morphinans, calcium channel antagonists, inotropic agents, antiprogesterone agents, and phosphoinositides. Some of the chapters present state-of-the-art reviews while others report on recent research findings. The conference organizers put together a program which focused on topics of high current interest and the volume should appeal to medicinal chemists. The price of this volume is unexplainably more than twice that of the proceedings of the IXth International Symposium on Medicinal Chemistry and will likely prevent its purchase by some individuals.

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New Therapeutic Strategies in Hypertension. Edited by Norman M. Kaplan, Barry M. Brenner, and John H. Laragh. Raven, New York. 1989. x + 321 pp. 18 × 26 cm. ISBN 0-88167-528-8. \$99.00.

This multiauthored book is the third volume in the series *Perspectives in Hypertension*. It contains 17 chapters ranging in length from 4 to 35 pages. The chapters are well referenced with current literature often cited. Seven chapters deal with individual classes of antihypertensive drugs while four chapters are on the management of hypertension in patients with other concurrent diseases. Additionally, the use of nondrug therapy as well as the potential usefulness of new drugs are discussed.

The chapters on the aim and goals of therapy and on the nonpharmacologic treatment of hypertension are of special interest since these areas are often overlooked in books that simply describe the drugs that treat this disease. Of special interest in the description of the U-shaped relationship between blood pressure control and cardiovascular morbidity in certain subgroups of hypertensive patients. The chapters on the use of individual classes of drugs include current references but cover areas which are included in numerous review articles on this subject. The chapters on hypertension in patients with cardiovascular disorders (e.g. congestive heart failure, arrhythmias, etc.), the elderly, and patients with diabetes are especially useful since these too are areas that are often neglected in treatises in this area. The chapter on new antihypertensive drugs deserves special note since classes of drugs included in this chapter may become drugs of choice in the future. This is especially true of the renin inhibitors and nonpeptidic angiotensin II antagonists since these groups of drugs may provide advantages over the very successful angiotensin converting enzyme inhibitors and calcium antagonists in the treatment of hypertension.

Overall this book is well written and carefully edited. The references are up to date and thus this text provides a good reference for those interested in the treatment of hypertension.

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Bioorganic Chemistry. A Chemical Approach to Enzyme Action. Second Edition. By Hermann Dugas. Springer-Verlag, New York. 1989. xv + 651 pp. 16 × 24 cm. ISBN 0-387-96795-8. \$59.00.

The second edition of *Bioorganic Chemistry* retains the same seven-chapter layout of the earlier work but is expanded by nearly 150 pages. The number of references is almost doubled to 650, which also reflects the tremendous growth of research interest in this field during the past decade. This excellent textbook clearly demonstrates the role played by organic chemistry in the interpretation of biological processes.

Chapter 1 briefly outlines some of the concepts developed more fully throughout the text and the latest edition includes an overview of molecular recognition. The major changes to the second edition come in chapters 2 and 3, which examine the bioorganic chemistry of peptides and nucleotides, respectively. The more classical approach to these subjects gives way in the new edition to a description of developments which have occurred during the last 10 years. Thus chapter 2 includes an updated section on the asymmetric synthesis of amino acids but lacks a detailed description of the chemical synthesis of peptides. The recently developed and very promising area of catalytic antibodies is described succinctly and after a section covering the site-directed chemical mutation of proteins the chapter closes with the subject of molecular recognition and drug design.

Chapter 3 still considers the fundamental principles of phosphate group chemistry but no longer addresses the chemical synthesis of polynucleotides. New sections in this chapter include a very graphically illustrated account of DNA intercalants and a synopsis of the important recent discovery that RNA molecules can function as catalysts.

Chapters 4 (enzyme chemistry) and 5 (enzyme models) are based upon the first edition with more recent examples added to amplify the concepts involved. In particular the inclusion in chapter 4 of a more detailed description of stereoelectronic effects

is most valuable. The expansion of chapter 5 has been necessary to include the prodigious developments in host-guest and crown ether chemistry over the last decade. The remaining two chapters each gain an additional section. Chapter 6 (metal ions) incorporates an account of early attempts to model the photosynthetic process while the final chapter (coenzyme chemistry) examines the design rationale for several suicide enzyme inhibitors.

The author has succeeded in presenting a very readable account which will fulfill the needs of the advanced undergraduate or beginning graduate student. A particularly attractive facet of the book is the lucid manner in which stereochemistry is depicted and discussed. The up-to-date reference section and citations within the text to leading researchers in a particular field should readily allow the reader to find more information on a specific topic.

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Calcium Antagonists. By Winifred G. Naylor. Academic Press, London. 1988. ix + 347 pp. 16 × 23.5 cm. ISBN 0-12-514645-0. \$24.00.

Calcium channel drugs are a major component of the contemporary cardiovascular armamentarium. Interest runs high from basic, clinical, and commercial perspectives. There is no dearth of review articles and books and, as in other well-documented fields, the newer arrivals face increasingly challenging comparisons.

Dr. Naylor has provided a single-author volume, itself a positive step in the midst of largely "unedited edited" volumes, that attempts to cover the field of calcium antagonism from the fundamental properties of ion channels through pharmacologic properties and therapeutic applications. The book consists of 20 chapters and works its way from an introductory historical perspective, through the properties of ion channels, and discussions of Ca²⁺ channels and their drugs, to Ca²⁺ antagonists and specific cardiovascular diseases through drug interactions, side effects, and future developments. This is comprehensive coverage indeed.

To the newcomer in the field the book offers the virtue of being an introductory survey available between two covers. It is referenced through 1987 in reasonably comprehensive fashion.

Not all of the information presented is well discussed and often the discussion is cursory. However, as a survey it serves its purpose. Those familiar with the field will need to look elsewhere for detailed and authoritative discussion.

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Books of Interest

The United States Pharmacopeia, 22nd Revision and The National Formulary, 17th Edition 1990. United States Pharmacopeial Convention, Inc., MD. 1989. liv + 2067 pp. 22.5 × 29 cm. ISBN 0-913595-37-3. \$200.00.

USAN and the USP Dictionary of Drug Names (USAN). United States Pharmacopeial Convention, Inc., MD. 1989. 761 pp. 21.5 × 28 cm. ISBN 0-913595-40-3. \$78.95.

Neuromethods. Volume 11. Alan A. Boulton, Glen B. Baker, and Roger F. Butterworth. The Humana Press, Inc., NJ. 1989. xx + 383 pp. 16 × 24 cm. ISBN 0-89603-143-8. \$74.50.

Good Laboratory Practice Regulations. Drugs and Pharmaceutical Sciences. Volume 38. Allen F. Hirsch. Marcel Dekker, Inc., New York. 1989. viii + 224 pp. 16 × 23.5 cm. ISBN 0-8247-8101-5. \$99.75.

Elements of Molecular Neurobiology. C. U. M. Smith. John Wiley & Sons, Inc., NJ. 1989. xii + 525 pp. 19 × 24.5 cm. ISBN 0-471-92124-6. \$39.95.

Magnesium in Health and Disease. Y. Itokawa and J. Durlach. John Libbey & Company Limited, England. 1988. 432 pp. 17 × 25 cm. ISBN 0-86196-144-7. \$68.00.

- Chiral Liquid Chromatography.** W. J. Lough. Routledge, Chapman & Hall, New York. 1989. ix + 276 pp. 16 × 24 cm. ISBN 0-412-0174-5. \$112.00.
- Synthetic Organic Electrochemistry. Second Edition.** Albert J. Fry. John Wiley & Sons, Inc., NJ. 1989. xii + 339 pp. 16 × 24 cm. ISBN 0-471-63396-8. \$55.00.
- Plant Cell Wall Polymers. Biogenesis and Biodegradation. ACS Symposium Series 399.** Norman G. Lewis and Michael G. Paice. The Maple Press Distribution Center, PA. 1989. xii + 676 pp. 16 × 23.5 cm. ISBN 0-8412-1658-4. \$119.00.
- Metal-DNA Chemistry. ACS Symposium Series 402.** Thomas D. Tullius. The Maple Press Distribution Center, PA. 1989. x + 213 pp. 16 × 23 cm. ISBN 0-8412-1660-6. \$49.95.
- Biocatalysis and Biomimetics. ACS Symposium Series 392.** James D. Burrington and Douglas S. Clark. The Maple Press Distribution Center, PA. 1989. xiii + 169 pp. 16 × 24 cm. ISBN 0-8412-1611-8. \$39.95.
- Organotin Chemistry (Journal Organometallic Chemistry Library, 21).** Iwao Omae. Elsevier Science Publishers, New York. 1989. viii + 356 pp. 17 × 24.5 cm. ISBN 0-444-87456-9. \$142.00.
- Genetics of Kidney Disorders. Progress in Clinical and Biological Research. Volume 305.** Christos S. Bartsocas. Alan R. Liss, Inc., New York. 1989. xv + 218 pp. 15.5 × 23.5 cm. ISBN 0-8451-5155-X. \$58.00.
- The Return of Blood to the Heart.** A. M. N. Gardner and R. H. Fox. John Libbey & Company Limited, England. 1989. viii + 184 pp. 17 × 25 cm. ISBN 0-86196-074-2. \$49.00.
- Pharmaceutical Thermal Analysis. Techniques and Applications.** James L. Ford and Peter Timmins. John Wiley & Sons, Inc., NJ. 1989. 313 pp. 17 × 24.5 cm. ISBN 0-470-21219-5. \$99.95.
- Sulphur-Containing Drugs and Related Organic Compounds. Volume 2. Part B. Chemistry, Biochemistry and Toxicology.** L. A. Damani. John Wiley & Sons, Inc., NJ. 1989. 175 pp. 17 × 24.5 cm. ISBN 0-470-21501-1. \$74.95.
- Pharmacology of Retinoids in the Skin. 8th CIRD Symposium on Advances in Skin Pharmacology, Cannes, September 1988.** U. Reichart and B. Shroot. S. Karger AG, Basel, Switzerland. 1989. x + 282 pp. 17 × 24.5 cm. ISBN 3-8055-4909-1. \$158.75.
- Steroid Analysis in the Pharmaceutical Industry. Hormonal Steroids, Sterols, Vitamins D, Cardiac Glycosides.** S. Gorog. John Wiley & Sons, Inc., NJ. 1989. x + 398 pp. 17 × 24.5 cm. ISBN 0-480-21178-4. \$94.95.
- Platelets and Vascular Occlusion. Sero Symposium Publications from Raven Press. Volume 54.** C. Patrono and G. A. FitzGerald. Raven Press, NY. 1989. xv + 303 pp. 16.5 × 24 cm. ISBN 0-88167-420-6. \$70.00.
- The Theory and Practice of Industrial Pharmacy. Third Edition.** Leon Lachman, Herbert A. Lieberman, and Joseph L. King. Lea and Febiger, PA. 1989. xii + 902 pp. 19 × 27 cm. ISBN 0-8121-0977-5. \$95.00.
- Chemiluminescence and Photochemical Reaction Detection in Chromatography.** John W. Birks. VCH Publishers, NY. 1989. x + 291 pp. 16 × 24 cm. ISBN 0-895-73281-5. \$64.50.
- NMR Spectroscopy and Polymer Microstructure. The Conformational Connection.** Alan E. Tonelli. VCH Publishers, NY. 1989. x + 252 pp. 16 × 24 cm. ISBN 0-895-73737-X. \$69.50.
- Iron Carriers and Iron Proteins. Physical Bioinorganic Chemistry. 5.** Thomas M. Loehr. VCH Publishers, NY. 1989. xvi + 533 pp. 16 × 24 cm. ISBN 0-895-73298-X. \$150.00.
- Biotechnology. Gene Technology. Biotechnology Series, Volume 7b.** H.-J. Rehm and G. Reed. VCH Publishers, NY. 1989. xv + 587 pp. 17.5 × 24.5 cm. ISBN 0-895-73561-X. \$298.00.