REVIEWS

Index Nominum 1978. 9th Ed. The Swiss Pharmaceutical Society. 1977. xiv + 814 pp. 21 × 30 cm. Price $88.00. Available from Drug Intelligence Publications, 1241 Broadway, Hamilton, IL 62341. (*Introduction in French, German, and English; text in French.*)

This edition of *Index Nominum* introduces a two-column format, allowing the incorporation of additional information while maintaining this reference as a single volume. As in the preceding edition, this volume uses a single alphabet to list International Nonproprietary Names (INN) and other generic names, trade names and manufacturers, chemical names and structures, pharmacopeial monographs on each drug, and main therapeutic uses. More than 3645 compounds and derivatives, including 270 new entries, are listed in this edition, along with more than 24,000 references. Several listings of derivatives were transferred to the entry of the parent substance, and numerous entries concerning obsolete or poorly defined substances were deleted.

Features retained from previous editions include the listing of monograph titles from internationally important pharmacopeias under "Monographie," the distinction of new listings by a point preceding the name or synonym, and the English translation of expressions used in the designations (which remain in French). The convenience of consulting only one cross-reference to find the main entry is continued in this edition. Cross-references to the main entry now include a dash instead of "voir." Several new signs and abbreviations were added.

Staff Review

Pharmacy in Health Care and Institutional Systems. Edited by PEDRO J. LECCA and C. PATRICK THARP. C. V. Mosby, 11830 Westline Industrial Drive, St. Louis, MO 63141. 1978. 275 pp. 18 × 25 cm. Price $13.95

The purposes of this book are "to identify and examine the more important concerns being raised by the interaction between pharmacy practice and the health establishment, to provide an interdisciplinary base of understanding of health care and institutional systems, to anticipate the difficulties that lie ahead and to indicate the probable direction of future developments." These are broad and grandiose objectives for a book of readings, and the reader closes this book with the feeling that none of them has been achieved.

For example, there is no reference to or mention of physicians, nurses, dentists, podiatrists, or any other health professional. It is difficult to understand how the authors can "provide an interdisciplinary base of understanding of health care and institutional systems" when the roles and attitudes of other health professionals are not discussed. Moreover, there is little discussion of "future developments." In fact, the last section is titled, "Current Trends."

The book has four basic sections: Part One, "Considerations in Health Care and Institutional Systems"; Part Two, "The Health Care System"; Part Three, "Health Care Institutions"; and Part Four, "Current Trends." Each section is composed of three chapters; all chapters present extensive bibliographies for the interested reader. Dr. Lecca is the author of Chapter 1, "The Introduction," and Chapter 5, "Pharmacy in Community Health Planning." Dr. Tharp is the author of Chapter 9, "Pharmacy in Group Practice and Pharmacy Foundations."

The brief biographical sketches on the title page do not adequately indicate the extent of the authors' experience with health care and institutional systems. Dr. Lecca is presently the Assistant Commissioner of Interagency Affairs, New York City Department of Mental Health & Mental Retardation. Dr. Tharp is the Director of Technical Services, Applied Technology Division of K. V. Pharmaceutical Co. A description of the authors' backgrounds in health care services is necessary for readers unacquainted with their work.

There are a number of basic flaws in the book. One is an overall lack of editorial supervision; pharmacy manpower is adequately addressed in Chapter 3, yet Chapters 2 and 4 contain information on this topic. The same problem occurs for skilled nursing facilities. They are discussed thoroughly in Chapter 7, yet Chapter 8 also discusses this area. Another problem is that information in many chapters is now outdated, such as the extensive undiscussed tables on national health insurance proposals for 1974 in Chapter 2 and Pharmacy Foundations in Chapter 9. Furthermore, the connection between the content in Chapters 10 and 11 and institutional systems is unclear. The sequencing of chapters is also inappropriate: Chapter 4, "The Health Care System—An Overview," should be Chapter 1. Some chapters cover their intended objective in depth, others are incomplete; for example, Chapter 8 fails to discuss long-term care facilities, and Chapter 5 does not present a discussion on Area Health Educational Centers.

A few chapters stand on their own for providing good information and data on their respective subjects such as Chapter 2, "Cost Control"; Chapter 3, "Institutional Pharmacy Manpower"; Chapter 4, "An Overview of the Health Care System"; Chapter 7, "Institutional Service in Hospitals"; Chapter 10, "The Impact of Sociological Research"; and Chapter 11, "Planning Development and Evaluation of Continuing Education." Other chapters are incomplete such as Chapter 6, "Clinical Pharmacy in the Health Care System"; Chapter 8, "Nursing Home Pharmacy Services"; and Chapter 9, "Pharmacy in Group Practice and Pharmacy Foundations."

Because much of the information in this book is already outdated, it has little value other than as a historical reference. For someone interested in reviewing early national health insurance legislation and community health planning prior to 1977, Chapters 2 and 5 might be of interest. The value of this book to the experienced teacher and researcher in the social and administrative sciences is only temporary and may have passed. For anyone who scans *Current Contents* for social and behavioral sciences and *International Pharmacy Abstracts* and maintains a respectable reprint file, this book is not worth its price. It may have limited value as a reference source in an undergraduate pharmacy course on pharmacy and health care.

Reviewed by Jean Paul Gagnon
School of Pharmacy
University of North Carolina
Chapel Hill, NC 27514

Annual Reports in Medicinal Chemistry, Vol. 13. Edited by F. H. CLARKE. Academic Press, New York, N.Y. 1978. 337 pp.

Volume 13 of "Annual Reports in Medicinal Chemistry" continues the series tradition of updating various major research areas in medicinal chemistry. Also, several brief chapters highlight research trends in new areas of interest or in areas with which most medicinal chemists are less familiar.

Like previous volumes in this series, Volume 13 is divided into six sections: Central Nervous System Agents, Pharmacodynamic Agents, Chemotherapeutic Agents, Metabolic Diseases and Endocrine Function, Topics in Biology, and Topics in Chemistry. Each section is subdivided into five or six chapters of approximately 10 pages each. The section on Central Nervous System Agents contains the standard chapters on antidepressants, antipsychotic agents, narcotic analgesics, and antianxiety agents, the latter chapter being further subdivided into benzodiazepines and nonbenzodiazepines. In addition, these and other chapters deal with the most recent work on dopamine agonists, agents affecting GABA, and opiate receptors, reflecting current research interests in these important areas.

Pharmacodynamic Agents covers topics including antiallergy drugs, diuretics, and antihypertensive agents. Unlike recent volumes which have covered specific cardiovascular areas in detail, Volume 13 contains a chapter entitled Agents for the Treatment of Heart Failure. This chapter outlines advances in areas such as the cardiac glycosides, vasodilators, β-adrenoreceptor stimulants, phosphodiesterase inhibitors, and cardiac stimulant peptides. Included also in this section is an interesting chapter on a rarely reviewed topic: Inhibitors of the Renin–Angiotensin System.

The section on Chemotherapeutic Agents contains a wealth of the most recent research findings on antibiotic, antifungal, antineoplastic, antiparasitic, and antiviral agents. In addition, there is an impressive review of the structure–activity relationships of "non-classical" β-lactam antibiotics, *i.e.*, β-lactam antibiotics in which the bicyclic nucleus has been altered. Metabolic Diseases and Endocrine Function covers chronic

complications of diabetes, newer agents for the treatment of arthritis, mechanisms of action of glucocorticosteroids, and pharmacological regulation of serum lipoproteins.

Topics in Biology has a general review of various enzyme classes and selected examples of enzyme inhibitors. This is followed by a more detailed look at two classes of enzymes: β-lactamases and proteolytic enzymes. The section is rounded off by timely reviews of iron chelation therapy and peptide conformation. In addition to the usual review on Reactions of Interest, the final section, Topics in Chemistry, contains a useful and interesting chapter on asymmetric synthesis. There is a chapter that deals with newer methods and applications of quantitative structure–activity relationships in drug design and another on the stereochemistry of drug–nucleic acid interactions. Scattered throughout this volume are chapters on drug metabolism and a general review followed by reviews on the molecular aspects of, and enantioselectivity in, drug metabolism.

The more than 50 contributors to this issue of Annual Reports have put together an excellent volume which is certain to be of value to medicinal chemists, pharmacologists, and researchers in related fields.

Reviewed by Richard A. Glennon
Department of Pharmaceutical Chemistry
Medical College of Virginia
Virginia Commonwealth University
Richmond, VA 23298

Genetics of Industrial Microorganisms: Proceedings of the Third International Symposium. Edited by O. K. SEBEK and A. I. LASKIN. American Society of Microbiology, 1913 I St., N.W., Washington, DC 20006. 1979. 283 pp. 15 × 23 cm. Price $12.00.

A symposium on the genetics of industrial microorganisms held June 4–9, 1978, at the University of Wisconsin, Madison, was attended by approximately 500 university and industrial scientists interested in the genetics and biochemistry of existing and potential fermentation products such as antibiotics, amino acids, enzymes, alcohol, and hormones. University scientists recognized for excellent studies in processes basic to fermentation product development—mutation, selection, recombination, regulation, gene cloning—presented lectures, as did industrial scientists recognized for applications of these processes. Those lectures have been condensed into the articles appearing in this book.

In general, the papers reflect recent trends in applied microbiology. Most articles emphasize previously unpublished work, work not yet published at the time of the symposium, or work published just prior to the symposium. A few are well-referenced reviews of recent findings. For example, genetic crosses to improve processes and to find new antibiotics were illustrated by a striking example of the protoplast fusion technique applied to the breeding of fungi for cephalosporin production, presented by C. Ball and P. F. Hamlyn. An equally noteworthy example was the use of interspecific recombination *via* natural conjugation in *Streptomyces* to produce new "hybrid" anthracycline antibiotics, written by W. F. Fleck.

An emphasis on nitrosoguanidine as a mutagen in many strain programs is reflected in a paper by E. Cerdá-Olmedo and P. Ruis-Vásquez. That article succinctly outlines how the peculiarities of nitrosoguanidine action on DNA *in vivo* can be employed to obtain more efficient use of this mutagen. A paper on yeast protoplast transformation with hybrid yeast plasmids is representative of significant academic and industrial efforts to develop useful cloning systems in organisms other than *Escherichia coli*. This paper and other sections of the book illustrate the extent to which basic and applied research in microbiology have meshed. A paper by H. J. Treichler *et al.* on the role of sulfur metabolism in cephalosporin and penicillin biosynthesis illustrates how knowledge of a biosynthetic pathway and analyses of mutants altered in that pathway and its regulation are leading to more directed and more effective means of improving fermentation processes.

The papers by K. F. Chater and M. Okanishi provide an excellent review of plasmid genetics in *Streptomycetes* and of plasmid roles in antibiotic production. This active research area has become more important now that *Streptomycete* protoplasts have been transformed with plasmid DNA, bringing a cloning system in these industrial bacteria closer to reality. This and other key developments were emphasized in the symposium's keynote address by D. A. Hopwood. The Hopwood paper presents an excellent overview of trends to be expected in the application of genetics to industrial fermentations. The articles by N. D. Lomovskaya *et al.* and by K. F. Chater demonstrate an increasing interest in developing transduction in industrial bacteria and their possible use as cloning vectors. Articles by Y. Aharonowitz, B. M. Pogell, and J. F. Martin *et al.* on metabolic regulations in industrial microorganisms likewise show an expanding interest in the basic mechanisms that regulate antibiotic synthesis. Recombinant DNA experiments for the production of mammalian hormones, which have been repeated recently, are not included in this book, but there is a useful discussion of government regulation of recombinant DNA experiments.

The book should be read by all industrial scientists looking for new fermentation products and/or improved strains for producing existing products. Genetic engineering has increased the interest of industrial managers in basic genetic studies. The quest for new challenging problems has led more university microbiologists, biochemists, and geneticists to look with keener interest at organisms traditionally used only in industry. These individuals also will benefit by adding *Genetics of Industrial Microorganisms* to their personal library. The editors, O. K. Sebek and A. I. Laskin, are to be commended for expediting an early publication of this volume, thereby increasing its value as a current reference work in this rapidly progressing field. The American Society for Microbiology is to be commended for offering the volume at a price that makes it available to the interested graduate student.

Reviewed by Stephen W. Queener
Department of Antibiotic Culture Development
Eli Lilly and Company
Indianapolis, IN 46206

Microbiology—1979. Edited by DAVID SCHLESSINGER. American Society for Microbiology, Washington, D.C. 365 pp. Price $22.00.

This volume contains an introductory note by the editor and then is divided into seven topical sections, with each section written by one or more authors. The sectional divisions are as follows:

I Microbial Membranes with an introduction followed by subsections of articles on Lipids (four articles)
Membranes and Membrane Proteins (five articles)
Transport and Energetics (seven articles)
II Mechanisms of Microbial Virulence (Introduction and 30 articles)
III Biochemical Genetics of Pathogenicity (six articles)
IV Antibiotic-Associated Colitis (Introduction and five articles)
V Resistant Gram-Positive Cocci (five articles)
VI Mutasynthesis of Antibiotics (five articles)
VII Ontogeny of the Immune System (five articles)

These articles were written by 134 authors, and each article in the various section divisions is complete with literature citations. The volume contains an author index and a complete subject index for easy reference.

This volume, containing many well-written articles under the topical divisions, would make a worthy addition to the reference library of any scientist in microbiological research.

Reviewed by Dale H. Cronk
College of Pharmacy and Health Sciences
Northeast Louisiana University
Monroe, LA 71209