

- (6) M. W. Whitehouse, I. Kippen, and J. R. Klinenberg, *ibid.*, **20**, 3309(1971).
(7) W. J. Dunn, III, *J. Med. Chem.*, **16**, 484(1973).
(8) J. N. Costanzo, Z. N. Gaut, J. T. Benedict, and J. M. Solomon, *Pharmacol.*, **6**, 164(1971).
(9) A. Leo, D. Elkins, and C. Hansch, *Chem. Rev.*, **71**, 525 (1971).
(10) J. M. Vandenbelt, C. Hansch, and C. Church, *J. Med. Chem.*, **15**, 787(1972).
(11) T. Fujita, *ibid.*, **15**, 1049(1972).

- (12) C. Hansch and W. J. Dunn, III, *J. Pharm. Sci.*, **61**, 1(1972).
(13) T. Higuchi and S. S. Davis, *ibid.*, **59**, 1376(1970).

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BOOKS

REVIEWS

International Encyclopedia of Pharmacology and Therapeutics—Neuromuscular Blocking and Stimulating Agents, Volumes I and II. Edited by J. CHEYMOL. Pergamon Press, Inc., Maxwell House, Fairview Park, Elmsford, NY 10523, 1973. 654 pp. 14.5 × 23 cm. Price \$52.50 (two-volume set).

These two comprehensive volumes reviewing the literature on agents which modify neuromuscular transmission represent the joint effort of the following authors: F. Bourillet, D. Bovet, W. C. Bowman, A. S. V. Burgen, C. Chagas, J. Cheymol, R. Couteaux, J. Debecker, J. E. Desmedt, D. Duncalf, Lise Engbaek, F. F. Foldes, G. Genkins, H. Grundfest, J. I. Hubbard, A. R. McIntyre, I. G. Marshall, K. E. Osserman, L. Sollero, G. Suarez-Kurtz, O. Vital-Brazil, G. Vourc'h, S. N. Webb, and P. G. Waser. Both volumes were edited by Professor J. Cheymol.

These two volumes are probably the most comprehensive review of agents that modify neuromuscular transmission that is available. The style of writing and arrangements of the manuscripts are of the highest quality and it is truly a pleasure to read the various chapters. As Professor Cheymol indicates in the Introduction, these volumes are comprehensive and include information that any researcher or clinician must have to understand the basic physiology and pharmacology of transmission. The various sections in the book include an excellent discussion of the anatomy that is involved with the end plate and skeletal muscle. At the physiological level, extensive discussions are included concerning pertinent enzymes, acetylcholine, and the influence of ions on transmission. Most of the volumes are devoted to the pharmacological level of discussion and comprehensive reviews are included covering comparative, chemical, and theoretical aspects of pharmacological actions of neuromuscular blocking agents and stimulants. Detailed discussions of the theoretical receptor as well as basic function of proteins are included. This is followed by discussion of pathological problems involved in neuromuscular transmission and finally the volumes conclude by comprehensive analysis of therapeutic considerations and treatments of various neuromuscular diseases.

Another reason that these are such delightful volumes is that the authors have exercised extreme care in searching the literature. The authors review the printed word all the way from the history of curare to the more recent research on the nerve terminal actions of drugs.

It is a pleasure for this reviewer to recommend these comprehensive volumes and assure any reader that they will be reviewing the most recent published work as well as our important historical heritage that leads to present knowledge. Volume I contains 423 pages and Volume II has 231 pages. Any scientist or clinician who is interested in neuromuscular transmission should have these volumes available as a necessary reference.

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Foreign Compound Metabolism in Mammals, Volume 2. By D. E. HATHWAY. The Chemical Society, Burlington House, London, W1V 0BN, England, 1972. xv + 513 pp. 14.5 × 22 cm. Price £ 11.00.

The second volume of this series covers the two-year period 1970–1971. It consists of an introduction section, seven chapters, and an author index and a compound index, the latter being a new feature added with this volume.

In the introduction, the editor D. E. Hathway discusses some broad points relative to the book, such as validation in man, biological availability, selection of animals, implications of metabolic studies on determining “no effect” levels, and perspectives in toxicology.

The first chapter on tracers for metabolism includes general considerations, syntheses of various radioisotopes, reactions, and stable isotopes.

The transference of radioactively labeled foreign compounds is covered in the second chapter; it is subdivided into drugs, pesticides, food additives, and other compounds.

Biotransformations, which comprise the third chapter, are discussed by the subdivisions drugs, food additives, carcinogens, lathrogens, silicon and boron compounds, toxins, rodenticides, insecticides, herbicides, fumigants and fungicides, and other compounds.

Chapter Four includes the mechanisms of biotransformation such as oxidation, reduction, hydrolysis, and conjugation.

The last three chapters cover species, sex, and strain differences in metabolism; drug kinetics; and interactions of drugs and foreign compounds.

Staff Review ■

The Molecular Basis of Antibiotic Action. By E. F. Gale, E. Cundliffe, P. E. Reynolds, M. H. Richmond, and M. J. Waring. Wiley, New York, N.Y., 1972. xviii + 456 pp. 14.5 × 23 cm.

The authors have chosen a topic for this book that is so potentially overwhelming in scope and detail one may justifiably wonder whether a single volume could adequately develop a molecular basis for antibiotic action. Their intent, however, is remarkably well approached. The format established is to classify the antibiotics according to whether they are inhibitors of bacterial cell wall synthesis, nucleic acid synthesis, or ribosome function or whether they affect the function of the cytoplasmic membrane. A clear effort is made to include under each classification examples of each major antibiotic known to function in the specified manner. The unifying thread is a lucid and critical discussion of biochemical or intact cell experiments which point to a particular molecular mechanism of action. Included in certain of the surveys, as well as in a separate chapter, is a fine introduction to the biochemical basis for bacterial resistance to antibiotics.