

## REVIEWS

**Structure and Function of Oxidation-Reduction Enzymes.** Volume 18 (Proceedings of the International Symposium held in Stockholm, August 1970). Edited by Å. ÅKESON and A. EHRENBORG, Pergamon Press, Inc., Maxwell House, Fairview Park, Elmsford, NY 10523, 1973. 777 pp. 17 × 25 cm. Price \$55.50.

Hugo Theorell has had a tremendous influence on biochemistry due to his fertile imagination, a possession of a sense for critical accuracy, and great technical skills. Theorell's achievements have been acknowledged by the scientific community in many ways, including the award of the Nobel prize. To mark his retirement, a conference was held in Stockholm in 1970, which was attended by many of his colleagues and students. Publication of the proceedings of this conference are presented in this volume. That the contributors are themselves a very distinguished company is an indication of Theorell's contribution to biochemistry. The scientific contributions of Theorell are considered by B. Chance in the first chapter of this impressive volume. However, the reader can obtain a rapid impression of Theorell's influence just by perusing the table of contents. The volume consists of some 80 papers, which are short pertinent reviews of a broad range of subjects pertaining to enzymology. These include the primary structures of various enzymes, e.g., bovine liver glutamate dehydrogenase, soybean leghemoglobin, and horse liver alcohol dehydrogenase, as well as the chemical synthesis of horse heart cytochrome *c* and some of its analogs. Other sections deal with the X-ray structural studies of whole enzymes and some coenzymes, allosteric transitions in enzymes, physicochemical studies of various enzymes in solution, kinetics of enzyme action, and excitation transfer between chromophores in enzymes. Enzyme interactions in integrated structures such as mitochondria and chloroplasts are also covered.

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**Krantz and Carr's Pharmacologic Principles of Medical Practice.** By DOMINGO M. AVIADO. Williams & Wilkins, 428 E. Preston St., Baltimore, MD 21202, 1972. xx + 1345 pp. 17.5 × 26 cm. Price \$22.50.

Incorrectly labeled as the eighth edition, this is actually the first edition of an entirely new book—completely rewritten and reorganized. The resemblance to the "parent" text is negligible. Professors of pharmacology in schools of pharmacy will be especially pleased with this book since the author appears to have taken seriously the recommendations of the 1964-1967 A.A.C.P. Committee on Curriculum that the ideal course sequence in pharmacology should be built around organ systems (rather than chemical structure) and should concentrate in-depth upon the pharmacology of carefully selected prototype drugs (cf. pp. 16-17; "Studies of a Core Curriculum," Melvin R. Gibson, Ed., American Association of Colleges of Pharmacy, Silver Spring, MD 20910, 1967). However, all medical scientists and practitioners will find the book to be a valuable and unique reference since it is the first text to rate drug efficacy using the Drug Efficacy Study Implementation (DESI) ratings resulting from the deliberations of the expert panels appointed by the National Academy of Science-National Research Council. These ratings otherwise must be searched for in the *Federal Register*. The prototype drugs have been chosen with obvious care and the supporting references cited in the bibliographies at the ends of the chapters are both selective and current. After the five inadequate chapters of introductory material, the remaining 71 chapters are efficiently sequenced into 19 sections: Drugs Acting on the Central Nervous System and Used in the General Practice of Medicine; Pharmacology of the Central Nervous System Relating to the Practice of Neuropsychiatry; Pharmacology of the Central

and Peripheral Nervous Systems Relating to the Practice of Anesthesiology; Pharmacology of the Sympathetic Nervous System; Pharmacology of the Parasympathetic Nervous System and Cholinergic Areas; Pharmacology of the Respiratory System; Pharmacology of the Cardiovascular System: Heart and Coronary Blood Vessels; Pharmacology of the Cardiovascular System: Systemic Blood Vessels; Pharmacology of Blood Cells and Blood Plasma; Pharmacology of Fluids, Electrolytes, and Renal Drugs; Pharmacology of the Reproductive System; Pharmacology of the Endocrine System; Drug Suppression of Allergic, Immunologic, and Inflammatory Responses; Drugs Used in the Practice of Ophthalmology, Otorhinolaryngology, and Dermatology; Gastrointestinal Tract, Digestion and Nutrition; Cancer Chemotherapy; Chemotherapy of Infections; Chemotherapy of Parasites; and Special Topics in Pharmacology. Appendixes A, B, and C compare the teaching of pharmacology in medical, pharmacy, and dental schools, respectively, and are well worth study by academicians. Appendix D categorizes 100 prototype drugs and 100 alternative agents. It is questionable as to whether Appendix E is really appropriate for a textbook in pharmacology since the primary *raison d'être* for this section seems to be to facilitate comparison of prescription prices per unit; this is, of course, useful information but more current data can be obtained from other sources and this aspect is hardly pharmacologic. According to the text's preface, Appendix E was authored by Dr. Harry Salem.

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**Methods in Pharmacology, Volume 2 Physical Methods.** Edited by C. F. CHIGNELL, Appleton-Century-Crofts, 440 Park Ave. S., New York, NY 10016, 1972. 499 pp. 16 × 23 cm. Price \$29.95.

For those who see the pharmacologist as a tabulator of rat tail flicks, the topics covered in this text should be an eye opener: fluorescence and phosphorescence spectroscopy, circular dichroism and optical rotatory dispersion, Mössbauer effect spectrometry, nuclear magnetic and electron spin resonance, scattered light measurement, spectrophotometry of enzyme suspensions, flow and relaxation methods in the measurement of fast reactions, X-ray diffraction, mass spectrometry, oscillographic polarography, and heatburst microcalorimetry. Although aimed at the pharmacologist, this volume would be equally at home in the libraries of biochemists, physiologists, and medicinal chemists, illustrating that when disciplines converge, distinctions vanish.

Dr. Chignell's purpose in assembling (and substantially contributing to) this book was to acquaint the researcher with newer physical techniques in a way that would enable him or her to judge their applicability to his or her own problems. In this, the book succeeds. Each chapter is lucidly written, presumes a minimum of ignorance, and is well illustrated and referenced. There may be disagreement, in some instances, with the amount of detail included or omitted. In the chapter on mass spectrometry, for instance, those of us returning to the use of stable isotopes could wish for a more explicit treatment of the mass spectrometer as a quantitative analytical tool. But these are only matters of personal leaning and do not detract from the main aim of the book. If a serious complaint is to be raised against the book, it will come loudest from those quarters where the pharmacologist, physiologist, or biochemist works under tight budgets and without access to the costly instrumentation described. For those so deprived, agonizing over the good fortune of their plusher colleagues will be little assuaged by a theoretical knowledge of techniques which are passing them by.

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