

sites of the enzymes, to the mechanisms and kinetics of the reactions, and to structure-activity relationships; stereoisomeric effects have been emphasized. Separate sections are included that are concerned with studies of the active sites of cholinesterases and on the "aging" of the organophosphate-enzyme product, since the latter phenomenon has particular significance in the therapy of poisoning by organophosphate inhibitors.

Subsection II, titled "Toxicity of Anticholinesterases and Treatment of Poisoning," by Dr. J. H. Wills, has two goals: (a) to complement and update reviews concerned with the pharmacology and toxicology of anti-ChE compounds, and (b) to describe and place on as firm a foundation as possible the treatment of poisoning by ChE inhibitors. Dr. Wills has assembled a large amount of basic data and information about the toxicology of a variety of inhibitors of ChE; and, more importantly, he has laid a foundation for therapy by a highly competent and thorough pharmacological analysis of the relevant material. The medical literature should still be consulted for clinical applications, to which the discussion of Dr. Wills is a prerequisite.

This review will be helpful to the student, investigator, and teacher interested in the various phases of ChE enzymes and their inhibitors, especially those for whom the historiographic approach is important. The subsection by Dr. Usdin, in addition to almost 300 pages of data and discussion, includes over 50 pages of references, a testimony to literature searches aided by computers. The computer, however, cannot be faulted for the fact that in an important table listing inhibitor constants the references are identified by number, whereas they are listed alphabetically. More rigorous editing here and throughout the text would have added to the readability and importance of this very useful review.

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The Chemistry and Biochemistry of Steroids. Edited by N. KHARASCH, Intra-Science Research Foundation, Santa Monica, Calif., 1969. iv + 166 pp. 21.5 × 28.5 cm. Price \$12.00.

This book represents a compilation of a series of lectures presented by Drs. Leland J. Chinn, John S. Baran, Paul D. Klimstra, and Raphael Pappo at the University of Southern California during the fall of 1968. The authors are all research chemists with G. D. Searle and Company and considerable discussion is given to research conducted in the Searle laboratories over the past two decades. Taken in this light, the book represents informative reading for students in medicinal chemistry interested in an industrial career.

The book is not, however, a complete text describing "The Chemistry and Biochemistry of Steroids" as represented by the publishers. Only selected areas of steroid chemistry are emphasized, and often times repeated (e.g., synthesis of 19-norsteroids), and the biochemical aspects are even more limited in scope. For example, the initial chapter by Dr. Chinn represents an excellent discussion of mineralocorticoids, but little mention is made of the equally important glucocorticoids. Moreover, the chapter on conformational analysis is lucidly presented, but the section on structure-receptor interaction fails to evaluate critically the various hypotheses associated with this nebulous subject.

The chapters on biosyntheses of cholesterol and hypocholesterolemic agents by Dr. Baran are an up-to-date summary of the research in these fields. To confuse the matter, however, these chapters are followed by another given the same title as the text itself, but which deals largely with the metabolism of cholesterol. Similarly, a chapter entitled "Biological and Clinical Aspects of Estrogenic Hormones" is four pages in length and describes mainly Dr. Baran's own research with 11 β -methyl-19-norsteroids.

The chapters by Dr. Klimstra on oral contraceptives and androgenic and anabolic steroids are well-documented reviews. As pointed out by the author, however, similar reviews recently have been published in other texts.

The final two chapters are written by Dr. Raphael Pappo and pertain to a discussion of the chemistry and biology of 2-oxasteroids and total and partial synthesis of steroids. The author has contributed significantly to the former and describes in detail the chemical development of the 2-oxa isostere of methyltestosterone which is marketed as an anabolic agent under the name of Anavar. A considerable portion of the chemistry presented in this chapter describes the author's own work and has not been published elsewhere.

Thus, this book represents an interesting and easy-to-read series of lectures representing selected areas of steroid chemistry and biology. It is not, however, a text on "The Chemistry and Biochemistry of Steroids" as the title implies.

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International Encyclopedia of Pharmacology and Therapeutics. Pharmacology of the Endocrine System and Related Drugs: The Neurohypophysis. Executive Editor, G. PETERS; Section Editors, H. HELLER and B. T. PICKERING. Pergamon Press Ltd., Oxford, England, 1970. x + 486 pp. 15 × 23.5 cm. Price \$16.00.

This volume I of section 41 of the *International Encyclopedia of Pharmacology and Therapeutics* is composed of 12 chapters by 19 distinguished contributors. The subject matter includes the history of neurohypophysial research, the chemistry of the natural and synthetic neurohypophysial hormones, their distribution and evolution in vertebrates, structural-activity relationships of the natural and synthetic hormones, and the latest theories on their storage, release, biosynthesis, and analysis in body fluids. There is also an expanded chapter on the physiological and pharmacological effects of posterior pituitary peptides and their derivatives on the kidney, uterus, and mammary gland. In addition, there are chapters on the effects of posterior pituitary hormones and their derivatives in lower vertebrates, their cellular mode of action and fate, as well as a concluding discourse on the clinical pharmacology of oxytocin and vasopressin.

Through this text which deservedly carries the term encyclopedia are extensive references to books, reviews, monographs, and original papers which easily bring the researcher up to date on the most recent data available concerning every conceivable aspect of the neurohypophysis. Appended is a complete author and subject index.

The reader is urged to spend some time studying a series of electron-micrographs which very clearly demonstrate the ultrastructural changes and the effects on hormone release of ether anesthesia, and ether-and-hemorrhage on rat and rabbit neural lobes.

One major and obvious oversight is the unintentional absence of pages 264-265, 268-269, 272-273, 276, and 277. It is hoped that the publisher can, at this time, still rectify this before the book begins to circulate widely. It is too fine a reference source to be known for its missing pages and accompanying facts. This work should be included in all medical research libraries and is recommended to all investigators interested in the most up-to-date information concerning the pharmacology and endocrinology of the posterior pituitary.

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