REVIEWS

Advances in Drug Research, Volume 7. Edited by N. J. HARPER and ALMA B. SIMMONDS. Academic, 111 5th Avenue, New York, NY 10013, 1973. 231 pp. 15.5 × 23 cm. Price $15.50.

The latest volume in this series consists of three chapters; one reviews the latest research on penicillin antibiotics, another describes work to date on fibrinolysis, and the final chapter is a review of psychotomimetic agents. The chapters in each case reflect the primary interests of the individual authors, their backgrounds being chemist, clinician, and pharmacologist, respectively. However, in all cases the importance of the multidisciplinary approach to drug research is apparent.

The first chapter in the book, "Advances in Penicillin Research," by J. H. C. Nayler is an updating of the review on penicillins and related structures published in the first volume of this series and covers work done between the years 1963 and 1973. The newer preparative procedures for semisynthetic penicillins are reviewed and the chemical properties of penicillins are discussed extensively. This discussion is divided into reactions at the β-lactam ring, the carboxyl group, sulfur atom, amino group, and the C^6 position. There are brief sections on the mechanism of action of penicillins and the problem of bacterial resistance to these agents. A major section of the chapter is concerned with antibacterial activity in relation to structure and will be of particular interest to the medicinal chemist. The section concerned with behavior of penicillins *in vivo* will be pertinent to a broad spectrum of pharmaceutical scientists since it considers the distribution, elimination, and absorption of penicillins along with a brief discussion of various prodrugs which have been prepared and utilized clinically. The final section of the chapter deals with hypersensitivity reactions and means of modifying or possibly eliminating this phenomenon. As noted, the data reported in this review are basically from the years 1963 to 1973 and are documented with over 300 references.

The second chapter is written by a clinician, G. R. Fearnley, and describes the relatively little studied process of fibrinolysis. This chapter is clearly written and presents an excellent overview of the phenomenon of fibrinolysis. The chapter begins with the history of the development of studies on fibrinolysis and proceeds to a description and definition of the components of this phenomenon and of the experimental techniques currently used in studies of fibrinolytic activity. Physiology of fibrinolytic activity and factors influencing it along with possible mechanisms are described and the importance of fibrinolysis in occlusive vascular disease is discussed. A most important area discussed, of interest to researchers in the pharmaceutical sciences, is the pharmacological enhancement of fibrinolytic activity. *In vitro* and *in vivo* tests for fibrinolytic activity are discussed in this section along with correlation as well as lack of correlation observed. In addition, the various chemicals studied and tested clinically for enhancement of fibrinolysis are described. A discussion of pharmacological inhibition of fibrinolytic activity and the effect of pathological fibrinolysis along with a description of known antifibrinolytic drugs is also included.

The final chapter in the book, "Psychotomimetic Drugs; Biochemistry and Pharmacology" is contributed by R. W. Brimblecombe. Psychotomimetic drugs are defined as "substances which will consistently produce changes in thought perception and mood occurring alone or in concert without causing major disturbances in the autonomic nervous system or other serious disability." The author classifies the psychotomimetic drugs into four types: *(a)* sympathomimetic amines, *(b)* antiacetylcholine drugs, *(c) Cannabis* and cannabinoids, and *(d)* miscellaneous. Drugs in each of the first three categories are described along with the *in vivo* responses observed in each instance. In addition, in the case of the antiacetylcholine and *Cannabis* and cannabinoid drugs structure–activity relationships which have been developed are also included. The final section is concerned with the biochemical and pharmacological actions of the drugs in each class and their mechanism of action.

This volume presents the information on the topics covered in a broad and interesting manner and should be of value to pharmaceutical scientists.

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The Suppository. By B. R. GUILLOT and A. P. LOMBARD. Maloine S. A., 27, rue de l'Ecole de Medecine, 75006 Paris, France, 1973. 143 pp. 16.5 × 24 cm.

"The Suppository" is a multiauthor paperback printed on glossy paper. The style and editorial arrangement of the booklet are at times less than perfect, but perhaps, this is to be anticipated in the first English edition. In reading the booklet one has the impression of having read a company brochure. The photographs and figures are good and numerous.

The first section of the booklet introduces and defines the role of the suppository in modern medicine, discusses the manufacture of semisynthetic glycerides, and illustrates some applications of chromatography to the investigation of glycerides. The crystallography of fats and the polymorphism of fats are discussed in an interesting manner under separate headings.

In the sections on manufacture and control the relation of the department of galenical pharmacy to other departments in a pharmaceutical firm is described in terms of product design, adjuvants, variations, and formulations. The manufacture of suppositories is classified as manual, semiautomatic, and automatic production. Detailed floor plans, personnel, photographs, and sources of European equipment are given. Difficulties encountered in manufacturing, control methods, and packaging complete the section on manufacturing.

The remainder of the booklet covers toxicity and tolerance of suppositories and the physiology of the rectum. Some *in vitro* apparatus for testing suppositories are diagrammed. Some aspects of formulation on bioavailability are summarized, and specific examples are erythromycin, aminosalicylic acid, eserine (physostigmine), and sulfisoxazole.

"The Suppository" is a specialized booklet of interest to pharmacists engaged in suppository production and to those who desire a complete reference library.

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A Chemist's Guide to Regulatory Drug Analysis. By DANIEL BANES. Association of Official Analytical Chemists, Box 540, Benjamin Franklin Station, Washington, DC 20044, 1974. vi + 133 pp. 15 × 23 cm. Price $7.00.

The laboratory duties of a chemist involved in regulatory drug analyses are performed not in isolation but within the framework of current activities and legal restraints of the regulatory body as a whole as well as in relationship to official and reference informational sources. In this book, the author explores these interrelationships and, as stated in the preface, aims in particular "to acquaint the reader with the basis of the legal requirements concerning the composition of drug products in the legitimate channels of commerce, to indicate the affinity of purpose between the

reader's labors and those legal requirements, and to call to the reader's attention the burgeoning scientific literature pertaining to drug control." In all three areas, a wealth of facts and information is presented from the viewpoint that can only be gained by many years of practical experience.

In the first section of the book, the legal origins and applications relevant to regulatory drug analyses are presented and the purposes, functions, and responsibilities of regulatory drug analyses delineated. In the second section, the relevant scientific documents and literature resources, including domestic and foreign official regulatory methods, nonofficial compilations, reference treatises and texts, and publications are presented with a description of each. In the third section, the constructional features of methods suitable for, and useful in, regulatory drug analysis are described in detail. Although methods of analyses are in a continual state of flux as new procedures are developed, instrumentation becomes more sophisticated, or specifications more stringent, the basic principles remain unchanged. These are discussed relative both to monographs in existing pharmacopeias and to personal experiences of the author and associates in laboratory problems.

The book should be particularly valuable for those chemists who are fairly new to the area of regulatory drug analyses, and at the same time be of interest to experienced personnel in emphasizing the wide scope of their laboratory activities.

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Amino-Acids, Peptides and Proteins. Volume 5. R. C. SHEPPARD, Senior Reporter. The Chemical Society, Burlington House, London, WIV OBN, England, 1974. 515 pp. 13 × 2.5 cm. Price £8.00.

It is indeed encouraging to see that the high standard which was established by Dr. Young has been faithfully maintained by Dr. Sheppard in presenting this fifth report in the series of the literature review in the field of amino acids, peptides, and proteins. The seven chapters of this volume provide a systematic and comprehensive review of papers appearing during 1972 and make an excellent addition to the earlier volumes.

The first four chapters are devoted to the detailed survey of the literature on amino acids, structural investigations of peptides and proteins, peptide synthesis, and peptides with structural features not typical of proteins. Of special interest is the subject matter of Chapter 5 concerned with chemical structure and biological activity as related to hormones and peptides, which have not been covered in this series since Volume 1. The detailed review of this area therefore includes references from 1971 and earlier literature, as does the subject of Chapter 6 (Metal Derivatives of Amino Acids, Peptides, and Proteins) which covers papers appearing in 1971 and 1972.

The new and revised recommendations of the IUPAC–IUB Commission on Biochemical Nomenclature are included in Chapter 7 and in addition the present volume also includes definitive rules for one-letter notation for amino acid sequences for the presentation of large amounts of data in a relatively compact form.

The researchers in the area of amino acids, peptides, and proteins will greatly benefit from the indispensable service provided by this volume, however, it is sincerely hoped that such surveys of the literature in future volumes will be relatively more expedient.

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Pills, Profits, and Politics. By MILTON SILVERMAN and PHILIP R. LEE. University of California Press, Berkeley, Calif., 1974. 421 pp. 16 × 24 cm. Price $10.95.

In this book, the authors offer a well-documented, readable account of the roles and forces affecting those involved in the drug distribution chain—from researcher to consumer. They detail the drug industry's research/promotion/pricing/profit policies, discuss physician prescribing habits, outline the history of federal legislation and regulation, and examine the interrelationships between legislators, manufacturers, prescribers, and dispensers. The continuing drug quality and generic *versus* brand name controversy is discussed, as is the discrepancy in drug pricing schedules between community pharmacies, hospitals, and nursing homes. Individual chapters are also devoted to adverse drug reactions and OTC product efficacy.

Of particular interest is the chapter entitled "Pharmacy: Revolution in the Making." Here the authors trace the role of the pharmacist and assert that "It is the pharmacist who can play a vital role in assisting physicians to prescribe rationally, who can help see to it that the right drug is ordered for the right patient, at the right time, in the right amounts, and with due consideration of costs, and that the patient knows how, when, and why to use both prescription and nonprescription products. It is the pharmacist who has been most highly trained as an expert on drug products, . . . and who can serve both physician and patient as a knowledgeable advisor. It is the pharmacist who can take a key part in preventing drug misuse, drug abuse, and irrational prescribing."

Staff Review