

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 C⁶ 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, aminosalicic 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