

## REVIEWS

**Perspectives in Clinical Pharmacy.** Edited by DONALD E. FRANCKE and HARVEY A. K. WHITNEY, JR. Drug Intelligence Publications, Hamilton, IL 62341, 1972. xvi + 535 pp. 18 × 25 cm. Price \$15.00.

*Perspectives in Clinical Pharmacy*, according to the title page, is "a textbook for the clinically-oriented pharmacist wherever he may practice." The book consists of a series of 25 chapters written by 32 authors, each chapter written to stand alone but with the intent that all chapters relate to what the editors refer to in their preface as "the concept of clinical pharmacy." The work has been prepared under joint editorship, the senior editor being a well-recognized hospital pharmacist and pharmacy journalist, the junior editor, a director of pharmacy service in a university teaching hospital. An easily read two-column format is used throughout the book which is illustrated with tables, figures, and drawings. Chapters contain rather complete bibliographies, some of which are supplemented with a secondary list of references. This feature adds greatly to the book's utility to students and practitioners. The index is carefully prepared.

*Perspectives* is one of the first textbooks to be prepared under the general title of "clinical pharmacy." In this sense, it has a certain historic significance. Since any first effort of this nature made during periods of rapid transition may fall short of the original goals set for it, *Perspectives* must be accepted in a certain provisional light. If in the years ahead, the concept of clinical pharmacy becomes an enduring component of pharmacy practice and education, and if the book in succeeding editions keeps pace with the field as it evolves, *Perspectives* may become, indeed, a valuable asset to the literature of the profession.

Prior to reviewing *Perspectives*, the reviewer raised two questions which he hoped would be answered. "What is clinical pharmacy?" and "Is clinical pharmacy something new or is it only a concept, an emphasis, an attitude, or a hope of things longed for?"

A critical reader of a new book usually wants to know why the book was written, and if a specific need exists which the author(s) is attempting to fulfill. The reviewer found that *Perspectives* failed to supply this information since the preface was less informative in this regard than had been hoped for. Of the seven paragraphs in the preface, the first identifies clinical pharmacy as representing "a revolt by a group young in years and in spirit against the way the profession has developed," when in fact it seems to be stemming from more than just the disenchantment of the young. The second paragraph acknowledges that no one has succeeded in defining clinical pharmacy but when the concept matures it will bring with it the clinical pharmacist who "will perhaps best be described as an applied pharmacologist generalist." The third paragraph states the objectives which dictated the selection of subject matter: *first*, to orient the reader to the health-care system; *second*, to acquaint the reader with those continually evolving concepts and practices which relate to clinical pharmacy; and *third*, to present information "the clinical pharmacist will use in his daily effort to promote the safe and effective use of drugs. . . ." The remaining four paragraphs in the preface deal with acknowledgments.

The reviewer examined the book in light of the three objectives which directed the selection of the subject matter. The first, dealing with an orientation to the health-care system is dealt with in Chapters 1 and 4—principally in Chapter 1. While it includes data relating to health manpower, health-care costs, and morbidity and mortality data, the chapter contains very little that has not appeared regularly in the literature of the past 5 years. The author chooses not to discuss the financing of health care because of the many schemes that have been proposed and "the uncertain direction they will take." Admittedly, inclusion of the financing of health care in a textbook of this nature presents a difficult decision since omission of it, even for purposes of orientation, makes a discussion incomplete. It appears deficient in still another sense, in that it fails to provide guidelines which the reader, presumed to be a pharmacist, can use in adjusting his attitudes and behavior to the new delivery

system. The chapter does treat, in a generally readable style, some of the issues that have been at work in the present health-care situation, but which bring to the reader very little new information.

Chapter 4 approaches the health team concept from the point of view of the interrelationships among the pharmacist, physician, and nurse. The discussion, while well written, is largely conceptual and philosophical and again, represents a restatement of many of the ideas that have been discussed in recent years in the pharmacy literature.

One turns to Chapters 2, 3, 5, 6, 7, 8, 10, 11, 12, 14, and 15 for an appraisal of the subject matter which relates to the second objective: "to acquaint him with some of the still evolving concepts and practices of clinical pharmacy. . . ." Here one has several well-written and well-organized chapters, each prepared by an author or authors well qualified for the assignment. For a pharmacist who wants to know "how" and "why," several discussions are worthy of note: Developing a Clinical Pharmacy Program in the Hospital; Recent Advances in Drug Distribution Systems and Their Economic Feasibility; Developing a Parenteral Admixture Service; Building a Clinically-Oriented Drug Information Service; the Clinical Pharmacist in an Interprofessional Group Practice; and Pharmacy Services in Small Hospitals.

That portion of the subject which deals with the pharmacist's role as drug expert (objective three) is found in Chapters 9, 13, 16, 17, 18, 19, 20, 21, 22, 23, and 24. The subject matter ranges from drug interactions and the clinical pediatric specialist to biological half-lives and pKa values with clinical applications; formulation of sterile dosage forms; and intraperitoneal dialysis and interference of drugs with laboratory tests. These sections, too, are well written and show clearly the scientific sophistication and quantification that is now used in the study of pharmaceutical systems. Of particular note is the increasing application of the biological sciences to drug-related phenomena. These observations illustrate the growth that has occurred during the past 25 years in the body of scientific knowledge encompassed by the pharmaceutical sciences.

Three chapters are deserving of special note. Chapter 2 is an excellent chronological recounting of the development of clinical pharmacy according to concept, practice, and education. In this section, the reviewer found answers or partial answers to the two questions raised prior to his review. *Question 1.* "What is clinical pharmacy?" *Answer:* "Evolution of clinical pharmacy in the seventies appears to progress toward greater involvement in a patient-oriented practice by pharmacists in both hospitals and the community. . . . Despite the continued effort to practice, to educate for and to write about, there is yet no clear definition of 'clinical pharmacy.' The concept of clinical pharmacy tends to bend—depending on whether one refers to education or to practice—to its applications in the institutional setting or in the community."

*Question 2.* "Is clinical pharmacy something new or is it only a concept, an emphasis. . . ?" *Answer:* "It is difficult to assess the extent of actual clinical practice by any definition. . . . However, more often than not, clinical pharmacy may be a new term attached to old roles. Nevertheless, those pharmacists who have taken on new roles. . . have found a mission in which is deeply rooted a professional service role intrinsic to the delivery of health care and the needs of the patient. . . . Clinical pharmacy is not a completely new concept but admittedly the emphasis has changed during recent years."

This chronology of the evolution of clinical pharmacy is recommended reading for all pharmacists.

Chapter 3 is entitled "The Social Psychological Role of the Pharmacist in Drug Usage." The scope is extremely broad, embodying such topics as the professional self-image, physician-patient relationships, patient behavior in illness, patient's compliance, factors influencing patient's response to drugs, pharmacist-patient relationships, pharmacists' practice patterns, and separation of pharmacies and drugstores. The chapter, well written and well documented, highlights a number of important issues: professionalism, the need for instruction in the social and behavioral sciences in the pharmacy curriculum, and factors that influence drug utiliza-

tion. It has an editorial quality which calls for reform in both pharmacy education and pharmacy practice.

Chapter 25, "Principles of Experimental Design for Clinical Drug Studies," makes a unique contribution to *Perspectives*. It is written by a biostatistician who obviously is thoroughly familiar with his subject and lays out the concepts, requirements, design, and evaluation of clinical trials. For those who participate in clinical drug studies, this chapter is a valuable resource.

*Perspectives*, as with many first editions has both strengths and weaknesses. The chief weakness, in the reviewer's opinion, lies in the limited achievement of objective 1 for selection of subject matter. One might question the feasibility of attempting to include an "orientation to the health care system" in a textbook on clinical pharmacy because of the vast and complex nature of the subject. It is also obvious in some chapters that the authors are making a deliberate attempt to relate their subject matter to clinical pharmacy—a "bending" to accommodate a new concept. This appears to illustrate a statement under "Conclusions and Definitions," Chapter 2, which speaks of the loss of the medicine-making function (by pharmacists) to the pharmaceutical industry: "... the profession has sought to replace it with a 'new' thing—and today clinical pharmacy is the 'thing.'"

A new textbook that enjoys certain historical significance because of the time of its appearance and its subject matter often causes a critical reader to question the impact that the book will have on others, in this case the profession. A foreword for *Perspectives* was written by Professor Alex Berman who addressed himself to this question: "If the perspectives in clinical pharmacy revealed in this work become widely accepted in American pharmacy, can anyone doubt that this would have a profound impact on the profession and that it would grow enormously in social esteem? But such an acceptance will require a conscious change of direction and goals as well as a planned restructuring of economic and institutional aspects of pharmacy." The reviewer can only agree with Professor Berman's statement.

In summary, *Perspectives in Clinical Pharmacy*, has many features which will direct its use both as a textbook and a reference source. The reader will be left to ponder some of the philosophical matters that the book raises, particularly those that deal with the clinical pharmacy concept. In the final analysis, these matters are of lesser significance than those raised by the subject matter of the book. There are chapters in *Perspectives* that approach state-of-the-art presentations of certain areas of pharmacy practice and these will be the ultimate determinants of its usefulness to students and practitioners.

Reviewed by Donald C. Brodie  
Chief, Pharmacy Related Programs Branch, National Center for  
Health Services Research and Development, Health Services and  
Mental Health Administration  
Rockville, MD 20852 ■

---

**Stereochemistry and Its Application in Biochemistry, The Relation between Substrate Symmetry and Biological Stereospecificity.** By WILLIAM L. ALWORTH. Wiley-Interscience, 605 Third Ave., New York, NY 10016, 1972. 311 pp. 14.5 × 22.5 cm. Price \$16.95.

Appropriately, the opening chapter of the book starts with a discussion of the valuable contribution made by Ogston who pointed out that an asymmetric enzyme can distinguish between identical groups on a symmetrical enzyme. This point is further elaborated in a separate chapter on biochemical differentiation between chemically like, paired groups. The stereospecificity of fumarase, citrate

synthetase, aconitase, and alcohol dehydrogenase reactions is nicely condensed. For the nonchemistry majors, the introductory information on molecular asymmetry and biological stereospecificity, the standard configuration designations such as D, L system, and sequence rule are provided. Simple, selected examples for the determination of absolute configurations of the isomer are well presented. About 15 pages are devoted to the substrate stereospecificity of the well-studied enzyme,  $\alpha$ -chymotrypsin. It emphasizes the value of stereoisomers in mapping the active site of the enzyme. The information will be useful to pharmacologists and other biologists who are interested in using D and L isomers as a tool to probe drug-sensitive pharmacological receptors.

The final chapter covers the additional examples of biological stereospecificity of the tricarboxylic acid cycle. The biological stereospecificities in the squalene biosynthetic pathways should be particularly useful to the medicinal chemist. A proper design of anti-cholesterol agents should come from the proper understanding of biochemistry and stereochemistry of the system. One related topic on *cis* and *trans* isomers of retinene is not discussed in the text.

Throughout the book, the important statements and words are presented in italics. The illustrations are simple, clear, and creative. In the preface, the author states that "all students will profit by considering their study of molecular symmetry and biologic stereospecificity as a vital part of an introduction to the field of biochemistry." The statement is very true. Due to his background in bioorganic chemistry, the author has kept a *proper* balance between biochemistry and stereochemistry.

For faculty, as well as graduate students, the book should serve as an excellent reference.

Reviewed by P. N. Patil  
College of Pharmacy  
Ohio State University  
Columbus, OH 43210 ■

---

## NOTICES

*The Study of the Systemic, Coronary and Myocardial Effects of Nitrates.* Edited by G. G. GENSINI, Charles C Thomas, 301-327 E. Lawrence Ave., Springfield, IL 62703, 1972. 399 pp. 16.5 × 25 cm. Price \$27.50.

*Pathogenic Mycoplasmas,* A Ciba Foundation Symposium. Associated Scientific Publishers, 52 Vanderbilt Ave., New York, NY 10017, 1972. 404 pp. 16 × 24 cm.

*Autonomic Neuromuscular Transmission, Monographs of the Physiological Society, No. 30.* By M. R. BENNETT. Cambridge University Press, American Branch, 32 E. 57th St., New York, NY 10022, 1973. 274 pp. 13 × 21.5 cm. Price \$25.00.

*Actualites de Dermopharmacologie.* Edited by H. THIERS and J. COTTE. Centre Europeen de Dermopharmacologie, 33 Cours Eugenie, 69003 Lyon, France. 199 pp. 15 × 23.5 cm. (French).

*Subcellular Components, Preparation and Fractionation.* Edited by G. D. BIRNIE. University Park Press, Chamber of Commerce Building, Baltimore, MD 21202, 1972. 320 pp. 13.5 × 21.5 cm. Price \$17.50.

*Ontogeny of Acquired Immunity,* A Ciba Foundation Symposium. Associated Scientific Publishers, 52 Vanderbilt Ave., New York, NY 10017, 1972. 283 pp. 16 × 24 cm.

*Antibiotics in Clinical Practice.* By HILLAS SMITH, Williams & Wilkins, Baltimore, MD 21202, 1972. 346 pp. 14 × 22.5 cm. Price \$17.00.