

viewer's knowledge, this is the first time that such information appears in one publication.

"Preanalytical Methodology for Drug Analysis in Biological Fluids" discusses a variety of factors that need to be considered prior to performing an assay (subject selection; collection, handling, and storage of specimens; storage, processing, and treatment of sample). Each type of biological fluid is discussed in turn, with consideration for each of the preceding factors (blood, saliva, bile, urine, and feces). The chapter has many useful practical suggestions, and several drug examples are used as illustrations. Over 300 references are provided.

"Isotope Derivatization Analysis" describes the principles of this analytical technique and how it may be applied to the determination of drugs and metabolites, with emphasis given to the double-isotope method. The advantages and limitations of the technique are discussed with respect to sensitivity and specificity. There is also a discussion of the development of this method for a needed application. Numerous examples are provided throughout the chapter.

"Electron Capture Gas-Liquid Chromatography in Drug Analysis" presents a thorough discussion of the operation of the electron-capture detector and its utility in the analysis of drugs and metabolites. There is an extensive compilation of information from the drug assay literature with over 250 references. Numerous practical considerations are presented, along with a comparison of this detector with electron-capture-negative chemical-ionization GC-MS analysis.

The chapter on "Animal Species" addresses the question of which animal species is the best metabolic model for the human for a particular type of chemical structure. This chapter is based on a survey of the literature between 1970 and 1979 and is divided according to metabolic pathways under phase I and phase II reactions. There is an extensive compilation of data using the above classification in numerous tables which present compound, species, and the presence or absence of the metabolic product discussed.

The final chapter is entitled "Quantitative Pharmacology-EEG in Determining Bioavailability and Bioequivalency of Psychotropic Drugs." This chapter addresses a specific pharmacodynamic technique, electroencephalography, for the quantitative measurement of response to psychotropic drugs. The authors present a thorough discussion of this technique with numerous drug examples. This is a relatively new area which has promise for a variety of investigations.

The chapters of this book are well written, current, and thorough. The book is recommended to those readers who have a specific interest in or who require an overview of any of the individual topics covered. Certainly it is worthwhile library purchase.

*Reviewed by Michael Mayersohn
College of Pharmacy
Department of Pharmaceutical Sciences
The University of Arizona
Tucson, AZ 85721*

Nutrition and Drugs. (Current Concepts in Nutrition, Vol. 12.) Edited by MYRON WINICK. Wiley-Interscience, 605 Third Avenue, New York, NY 10016. 1983. 206 pp. 16 × 23.5 cm. Price \$40.00.

For various reasons most pharmacy schools provide little education in nutrition. But just as nutrition is important in maintaining proper health, it is also important in ensuring the proper response to drugs and in limiting their side effects. This volume provides a diverse group of topics on the subject of nutrition and drugs. The following list provides for each chapter the title, the first three authors, the chapter length in pages, and the number, average date, and percentage of reference citations published in 1978 and subsequent years:

1. "Drug-Vitamin B₆ Interaction," H. Bhagavan and M. Brin, 12, 22, 1972, 35%.
2. "Effects of Drugs on Cellular Transport of Nutrients," R. Branda, 16, 61, 1976, 50%.
3. "Vitamin D Metabolism and Metabolic Bone Disease," Z. Gaut, 20, 80, 1977, 58%.
4. "Alcohol, Protein Nutrition, and Liver Injury," C. Lieber, 24, 105, 1972, 25%.
5. "Drugs and Vitamin B₁₂ and Folate Metabolism," J. Lindenbaum, 16, 79, 1975, 40%.
6. "Drugs in the Food Supply," S. Miller and J. Harris, 12, 0, none.

7. "Lipid-Lowering Drugs and Low Fat Diets," R. Palmer, 10, 0, none.
8. "Effect of Diet and Sulfonyleurea Drugs on Insulin Resistance and Insulin-Receptor Function," F. Pi-Sunyer, 18, 99, 1974, 30%.
9. "Drugs and Nutrient Absorption," D. Roe, 10, 40, 1973, 22%.
10. "Appetite Regulation by Drugs and Endogenous Substances," A. Sullivan, J. Triscari, and L. Cheng, 30, 235, 1978, 65%.
11. "Drugs and Diet Therapy," A. Stunkard, 6, 0, none.
12. "Diuretics and Salt Restriction in Blood Pressure Control," S. Wassertheil-Smoller, H. Langford, M. Blaufox *et al.*, 16, 20, 1966, 38%.
13. "Vitamin A Analogs in Skin Disease," D. Windhorst, 12, 34, 1978, 62%.

Statistical results obtained for the entire volume and each chapter indicate some shortcomings of this volume. This book provides 765 published and 10 in-press citations with an average reference date of 1975; although 50% of the references cited were published in 1978 or later years, some 30% were published prior to 1975, a fact which questions use of the word "current" in the series title.

Overall quality control was poor. Some chapters were good; others were far less so. Aside from being well done, chapters 2, 3, 10, and 13 had 50-65% of the cited references published in 1978 and subsequent years. Chapters 1, 4, 5, 8, 9, and 12 are satisfactory, in general, but have reduced utility because of dated references; only 22-40% of the cited references were published in 1978 and later years. Chapter 12, with some of the most recent references in this group, also had some of the most dated references.

Although the content was interesting, a few chapters seem to detract from this work more than they support it. Chapters 6, 7, and 11 have no reference citations at all. Moreover, many of the missing references would seem critical to the point being made; their absence is astonishing.

There are a few instances where anticipated topics and citations were not mentioned. This diminished the breadth of the article. Specifically, chapter 5 makes no mention of the depletion of vitamin B₁₂ by chronic cyanide ingestion, a fact based on substantial research. Furthermore, it was also surprising that no mention was made of food additives and the possible link to hyperactivity in certain children in the discussion of chapter 6.

The volume contained a satisfactory index and although most chapters were easily read, chapter 11 warrants mention because of its complex and lengthy sentence structure. One example is both sufficient and classic:

"We recommend this because they act, I believe, by lowering the body weight set point, they do not rapidly lose their efficacy, at least in humans, tolerance does not develop, and therefore, when they are withdrawn, the body weight set point that had been artificially suppressed by the drug is elevated to the pretreatment level, resulting in very severe pressures upon people to regain the weight they lost with the aid of these drugs."

In summary, the highly variable quality and topical approach makes this volume more valuable to established libraries than to a general home library. While scientists actively engaged in research involving nutrition and drugs or pharmacology-toxicology will find this work useful, interest in this volume by many scientists will probably depend instead on the topic discussed. Because of limited prior exposure to this subject, pharmacists may find many of the topics to be refreshing and relevant both to their continuing education and to their dealings with a public increasingly fascinated by "nutrition" and dieting. Clearly, however, individuals interested in this subject should examine the work before purchase.

*Reviewed by John E. Garst
Department of Animal Science
College of Agriculture
University of Illinois at Urbana-Champaign
Urbana, IL 61801*

Progress in Drug Metabolism, Vol. 7. Edited by J. W. BRIDGES and L. F. CHASSEAUD. John Wiley and Sons, One Wiley Drive, Somerset, NJ 08873. 1983. 440 pp. 24 × 15 cm. Price \$90.00.

Within this volume are six independent, authoritative reviews consisting of a monograph on the renal excretion of drugs; the absorption, distribution, and excretion of two therapeutic classes of compounds; the metabolism and toxicity of two environmentally important compounds; and the relationship between metabolism and toxicity in the avian species. Each chapter is concise, well written, and includes pertinent structures and graphic illustrations. As in the

previous volumes, the relationships between drug levels, therapeutic response, and special disease states are discussed.

The following monographs are contained in this volume:

Chapter I, "The Renal Excretion of Drugs" (W. R. Hewitt and J. B. Hook), provides a comprehensive review of the important physiological processes whereby drugs are processed by the kidney. This excellent review contains 202 references.

Chapter II, "Pharmacokinetics and Metabolism of Diuretics" (R. M. J. Ings and L. A. Stevens), containing 436 references, has been devoted to the following classes of diuretics: carbonic anhydrase inhibitors, thiazides, loop and uricosuric agents, potassium-sparing agents, mercurials, and osmotic diuretics.

Chapter III, "Metabolism and Pharmacokinetics of Antihyperlipidaemic Agents" (M. N. Cayen), describes the absorption, distribution, metabolism, and excretion of the following therapeutic agents: clofibrate and congeners, nicotinic acid, and absorbable and nonabsorbable lipid-lowering agents. The review also contains discussions concerning drug interaction and the effects of this class of compounds on the liver. A total of 314 references have been cited.

Chapter IV, "Aliphatic Nitriles: Metabolism and Toxicity" (A. E. Ahmed and N. M. Trieff), contains 257 references. This chapter summarizes the metabolism, toxicity, and environmental impact of aliphatic saturated, unsaturated, and substituted nitriles.

Chapter V, "The Metabolism and Activation of Benzo[a]pyrene" (C. S. Cooper, P. L. Grover, and P. Sims), is an outstanding monograph in which the authors have compiled and reviewed the information in 447 references concerning the metabolism and activation of benzo[a]pyrene. The reaction of its metabolites with DNA and their involvement with mutagenesis are discussed.

Chapter VI, "Relationship Between Metabolism and Toxicity of Xenobiotics in Avian Species" (A. R. Buckpitt and M. R. Boyd), provides valuable insights into the use of the avian species to predict specific metabolites of a toxicant and its relationship to target tissue toxicity (82 references).

*Reviewed by Lawrence A. Pachla
Warner-Lambert/Parke-Davis
Pharmaceutical Research Division
Pharmacokinetics/Drug Metabolism
Ann Arbor, MI 48105*

Pharmaceutical Quality Control. By Dr. WILLIAM F. HEAD, JR. Exposition Press, Inc., 325 Rabro Drive, Smithtown, NY 11787-0817. 1983. 90 pp. 15.5 × 23.5 cm. Price \$8.00.

In 90 pages Dr. Head covers an enormous amount of information about the manufacture and control of pharmaceutical products. When you start to read such a short book on such a vast subject, there is considerable doubt that it is possible to do the subject justice.

In order to cover the subject of pharmaceutical quality control, which Dr. Head does reasonably well, he is forced to use a great many generalizations. The style in which the book is written could have the uninformed reader believing that the approach stated in the multitude of situations discussed is the only accepted way to perform the task being discussed. This is certainly far from the actual situation in the pharmaceutical industry. For example, there are several references to the use of stickers to identify the status of incoming, in-process, and finished products. The use of stickers is just one of several ways pharmaceutical companies identify the status of materials. Today more and more companies use computerized systems for inventory control and find these systems equally effective as the sticker system at a considerably reduced cost. This is not to say that the sticker system is no longer used or acceptable; there are probably many companies still using this system effectively.

This brings us to the critical issue of the audience for whom the book is written. The author singles out students of analytical and pharmaceutical chemistry, who have relatively little idea of the objectives of how to manage or work within a quality control organization. This is a limited audience. But, on careful examination it represents the initial work experience of many of the people who manage the quality control organizations of a large number of pharmaceutical companies. By reading this book, you will not learn what a quality control manager in the pharmaceutical industry does, you will not learn quality control statistics, nor will you learn the various skills of the quality engineer as they apply to the pharmaceutical industry. However, you will get a good view of many of the basic situations the quality control professional in the pharmaceutical industry frequently faces and how some companies handle these tasks.

*Reviewed by L. Pasteelnick
Director of Quality Assurance
Parke-Davis div.
Warner-Lambert Company
Morris Plains, NJ 07950*