## REVIEWS

**Introduction to Alkaloids—A Biogenetic Approach.** By GEOFFREY A. CORDELL. Wiley-Interscience, New York, N.Y. 1981. 1055 pp. 17 × 24 cm. Price $50.00.

As the title implies, this introductory text uses the concept of biogenesis to organize a vast and heterogeneous group of natural products, the alkaloids. Comprehensive coverage of alkaloids with specific chemical nuclei have been presented in the past in the form of edited texts and an edited series of volumes. These treatises are predominantly chemically oriented.

Dr. Cordell's effort to cover many aspects of the various biogenetic classes of alkaloids was as a single author and not as an editor. He should be highly commended for his enthusiasm and dedication in the writing of this excellent work. It surely was a monumental, but necessary, task in an era where the alkaloid field is expanding at such a rapid rate.

The book consists of almost 1000 pages divided into 12 chapters. As would be expected, the first chapter involves background material with concise presentations of history, occurrence, classification, properties, detection, isolation, purification, structure elucidation, and pharmacology of the alkaloids. The second chapter focuses on alkaloid biosynthesis and biogenesis and establishes the organizational tenor for the remainder of the text. The next nine chapters deal with alkaloids derived from ornithine, lysine, nicotinic acid, polyacetate, anthranilic acid, phenylalanine and tyrosine, tryptophan, histidine, and isoprenoid metabolism. The last chapter presents several very interesting miscellaneous alkaloids. The Appendix lists formulas for many of the useful alkaloid detecting reagents. In addition to the usual subject index, the organism index provides additional utility to this book.

The individual chapters are sectioned with each section comprising a single important alkaloid or group of related compounds derived from a common biosynthetic precursor. Within each section there are discussions involving chemistry, biosynthesis, and pharmacology. In certain cases useful synthetic and spectral data are presented. Most sections conclude with a listing of selected key literature references.

Although some scientists may be disappointed in the limited coverage of certain groups of alkaloids, Dr. Cordell has done a good job in keeping relative importance in perspective. For instance, Chapters 8 (Alkaloids Derived from Phenylalanine and Tyrosine) and 9 (Alkaloids Derived from Tryptophan) constitute over half of the book. However, these compounds probably deserve this degree of attention because of the great deal of published research on their medicinal value. This perspective and unity of presentation is one important advantage of a single author covering a broad scientific topic.

In conclusion, this book is a useful reference for scientists interested in various aspects of alkaloid research. The illustrations are excellent. Grammatical, spelling, and chemical structure errors are minimal. The utility of this interesting text, however, may be limited by its price.

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**Textbook of Organic Medicinal and Pharmaceutical Chemistry,** 8th Ed. Edited by ROBERT F. DOERGE. Lippincott/Harper, East Washington Square, Philadelphia, PA 19105. 1982. 876 pp. 21 × 26 cm. Price $47.50.

Because of its consistently high quality, the latest edition of this classical textbook, intended for use in undergraduate courses in Medicinal and Pharmaceutical Chemistry, was a pleasure to review. Despite the loss due to death or retirement of several of the prominent contributors to previous editions, those remaining, together with their new collaborators, have written excellent chapters. The combined effort is impressive. The first chapter is a broad overview of medicinal chemistry. This is followed by an effective summary of the basic material of the discipline, such as how structure relates to the drug–receptor interaction, and an excellent exposition of the medicinal chemistry of drug metabolism.

The anti-infectives, a specific group of therapeutical agents, is dealt with in the fourth chapter. Here, and in the remaining chapters, all treating specific groups of agents, one sees a consistent pattern of a thorough overview of the group under consideration and compact discussions of the chemical and biological properties of each of the members of the group.

Chapters dealing with sulfonamides, antimalarials, antibiotics, and antineoplastic agents are all very thorough and well written. Local anesthetics and antihistamines are also treated in well-written chapters. Excellent reviews of analgesics and steroids are also found in this text.

CNS depressants and stimulants and material from the Seventh Edition are substantially updated. Adrenergic agents and cholinergic agents are given highly competent treatment in subsequent chapters.

The chapter on diuretics is impressively updated and another chapter takes us easily through cardiovascular agents, a potentially difficult group.

Carbohydrates, proteins, and vitamins are skillfully treated. A concluding chapter effectively brings together a diverse group of agents, one example of which is diagnostic agents.

Two valuable appendixes describe properties of pharmaceutical aids and list pKa values for a number of drugs. Finally, the index is detailed and should prove to be useful.

All of the chapters of this text show signs of painstaking preparation. Revising and updating over the Seventh Edition is extensive. Literature citations are also extensive and current. Coordination between chapters is very good, and there is little redundancy. There is a high degree of consistency among the chapters in the nature of the material presented and the format for its presentation. A useful feature for pharmacy students is that pertinent chemical properties of the individual agents are given.

In summary, this is a most impressive textbook, judged for completeness, cohesiveness, and balance. The authors have used care and good judgment in making it an appropriate textbook for undergraduate pharmacy students.

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**Physicochemical Principles of Pharmacy.** By A. T. FLORENCE and D. ATTWOOD, Chapman and Hall, New York, N.Y. 10017. 1982. 509 pp. 15 × 23 cm. Price $29.95.

The purpose of this book is to provide the physicochemical background to the design and use of pharmaceutical products. Processing technology is not discussed. Special problems of the various routes of administration and of duration of activity are presented if the mechanism is physical and not biological.

An effort is made to demonstrate that often the same forces operate in inanimate and animate systems. The authors assume that undergraduates using this book will have had a standard physical chemistry course. Since it is aimed at undergraduates, the reference lists have been kept to a minimum.

The book is divided into 11 chapters, which are entitled: Gases; Properties of the Solid State; Liquids; Solutions; Solubilty of Drugs in Liquids; Surface Chemistry; Colloidal and Coarse Lyophobic Dispersions; Polymeric Systems; Principles of Drug Absorption and Routes of Administration; Drug Interactions and Incompatibilities: a physicochemical viewpoint; and Chemical Stability of Drugs.

There is an abundance of easily comprehended figures to supplement the text. Although examples are given, perhaps the inclusion of a greater number of sample calculations would have been helpful to the student. The chapters on principles of drug absorption and drug interactions and incompatibilities are especially valuable additions to a book dealing with physicochemical principles. This is a fine text which fulfills its purpose.

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