

Unfortunately, the brief pharmacological overview is some years out of date. For example, in describing the multiplicity of receptors associated with synaptic transmission, the comment is made that there are at least 'two types of muscarinic receptor' (there are at least five) ... 'at least four types of adrenergic receptors' (there are nine 'adrenoceptors') and ... 'probably three glutamate receptors' (there are at least 11). This lack of currency seriously sells short the potential for future therapeutic exploitation. Additionally, when dealing with signal transduction pathways, to suggest that G proteins might couple to 'guanidylate' (presumably guanylyl) cyclase, when this pathway was discarded at least a decade ago, is clearly lacking in currency; this is also apparent elsewhere in the text, where 'recent research' is cited using references from the 1980s.

Similarly, although drug structures are consistent and appear to be correct, the figures used to illustrate drug actions were primitive; the commentary on the back cover suggests that these are 'top-quality illustrations', but I must disagree. I have to challenge also the suggestion of 'extensive use of tables'.

Where is the market? Most, if not all, pharmaceutical chemists will have a recent copy of the British National Formulary, US Pharmacopoeia or similar equivalent to hand. I believe that a major plus point for this volume (and presumably other volumes in the series) lies in the referencing associated with each chapter so that follow-up of attributed remarks to the original source material can be conducted. On the negative side, however, is the lack of an index, which constitutes part of Volume 4 of the series. What this means is that the ordering of the text is based on an indication rather than a specific drug and necessarily there are overlaps where a particular drug can be used for multiple indications. For example,

benzodiazepines appear under both sedatives and anxiolytics, without any cross-referencing. Furthermore, entries for a drug that crops up under plural indications (e.g. lorazepam or diphenhydramine) are different, presumably as a result of being contributed by different authors. What this does suggest, though, is that the editorial control was not as rigorous as it could have been. In a similar vein, there appears to be no common progression to the introductory elements of the chapters. Some focus on mechanisms of drug actions, whereas others describe market share or historical context. Additionally, some chapters list abbreviations at the start of the chapter, although most do not. Abuse potential of some of the agents is inconsistently indicated, so that thiopental abuse is noted, but ketamine and γ -hydroxybutyrate (GHB) abuse is not.

In conclusion, I would say that this volume of the book does have a lot to recommend it, but it will be useful to only a select body of people. It might have some use as a reference source for undergraduate pharmacists, but the more likely target group is chemists working in the pharmaceutical industry. Thus, for a typical chemical listing in the text, the CAS-registry number, structural formula, molecular weight, melting and/or boiling point, chemical synthesis and trade names are given. These will no doubt be of use to the target group, but I can't help feeling that an electronic approach would be by far an easier route to access the information provided here.

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Pharmaceuticals: Classes, Therapeutic Agents, Areas of Application Volume 3

Anti-infectives, Endocrine and Metabolic Drugs

The third volume of the book comprehensively reviews anti-infectives, endocrine and metabolic drugs. There are major chapters covering antibiotics, chemotherapeutic agents and antimycotics in the anti-infectives section, and chapters on hormones and peptide and protein hormones dominate the endocrine and metabolic drugs section.

The editor has set the challenging aim of providing a reference book that is useful to a wide variety of professions, from marketing specialists to pharmaceutical chemists. To a large extent, these groups will be impressed with the information presented, the breadth of the information mirroring the wide target audience. Chemists and non-chemists alike will appreciate the generous use of chemical structures and the clarity with which the information is presented. This book presents a great deal of up-to-date information that has been thoughtfully put together in a concise and readable manner.

A wide target audience requires that each chapter be given an introduction that provides a gentle initiation to the topic. The chapter must include appropriate background material and, at the same time, it must also have a level of detail that is sufficient for the expert. In general, this book strikes this balance well, but perhaps some of the chapters do not cater for the less knowledgeable reader. Further information can be

accessed easily through the extensive list of references and, in some chapters, the references are helpfully split into general and specific categories.

Although each chapter can be read as a whole, the fact that they are generally laid out by compound means they can be 'dipped into' to obtain particular information. Unfortunately, this has to be done by referring to the contents pages because of the lack of an index in this volume. This is perhaps the single greatest shortcoming of the book. An index in each volume would allow the volume to be used on its own, and a glossary would help those who are not expert in the field.

This volume is clearly a valuable text in its own right and, although the volume was reviewed in isolation, presumably it would be further enhanced if it were used in conjunction with the other volumes in the series. Overall, this book would be a useful addition to either a personal or institutional library.

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Pharmaceuticals: Classes, Therapeutic Agents, Areas of Application Volume 4

Miscellaneous Drugs, Related Technology, Indexes

Volume 4, like the whole series to which it belongs, looks like a remake of an earlier version on the same topic:

Arzneimittel, Vols 1 and 2, edited first by Gustav Ehrhart and Heinz Ruschig and

also published by Verlag Chemie, Weinheim in 1968, at that time in German.

A positive aspect of this volume of the book, which deals with *Miscellaneous Drugs and Related Technology*, is that it is very comprehensive, containing chapters on 12 different topics, with anti-inflammatory-antirheumatic drugs, immunotherapy and vaccines, cancer chemotherapy, interferons, monoclonal antibodies and drug testing among them.

The book has a rather voluminous index (authors, CAS-registry numbers and subjects), which is contained in Volume 4. The volume represents a systematic listing of various therapeutic agents and related technologies, rather than a thoughtful and critical appraisal of their therapeutic value. Hence, any reader that is interested in biological mechanisms and the modification of such mechanisms for therapeutic purposes would be better placed to choose modern review articles or one of the more up-to-date textbooks of pharmacology. Obviously, the purpose of the new book is to offer read-related technologies. It should also give quick and meaningful references to readers who want to be informed in greater detail. In fact, I can think of no other purpose for a multi-volume work on pharmaceuticals that is not a pharmacological handbook or textbook.

In some chapters, for instance in the section on anti-inflammatory and anti-rheumatic drugs or in the chapter on cancer chemotherapy, the authors come close to fulfilling this mission. However, in other parts of the book they fail. Anyone who is interested in immunotherapy and vaccines could go straight to special textbooks dealing with these topics. The chapter on the interferons is succinctly written. However, it does not offer more than the most basic facts in a nutshell. Although this chapter might still satisfy the readers' expectations, the chapter on monoclonal antibodies clearly falls short. No mention

is made of the many new effective agents that have been introduced in recent years (Herceptin, Rituximab, anti-fibrinogen receptor antibodies, to name but a few). Instead, we find an illustration on the dramatic increase of publications relating to monoclonal antibodies, so why simply reiterate a collection of common-place facts?

The chapter on drug testing appears to reiterate some 'eternal truths' rather than offer a critical assessment of contemporary drug research. Not a word is lost on target identification, target validation, the promise and the dilemma of modern technologies; this chapter could almost have been written 30 years ago.

A few general comments: the list of references is far from complete. Very often, the reader is referred to patents that are not easily accessible and, in general, do not match the quality of original or review articles in peer-reviewed journals. The illustrations are rather unattractive sketches that offer little more than the most essential facts. In this day and age of computer-graphics and an abundance of sophisticated illustrations in scientific journals and textbooks, the book remains clearly below acceptable standards.

In conclusion, one must wonder if this type of multi-volume comprehensive work is a worthwhile undertaking. One could argue that a high-quality work, which serves as a first orientation and offers quick and easy references to readers who seek access to a particular area of pharmaceutical R&D, is indeed still needed. However, this book fails on too many accounts to be regarded as a welcome addition to existing literature.

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