thinker, the person prepared to discard or update outmoded ideas, to seek new challenges, to explore where lessons learnt in one area can fruitfully be applied to others. Books such as the present one may help spread the word.

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Pharmaceuticals: classes, therapeutic agents, areas of application
John L. McGuire (ed.)
Wiley–VCH, Weinheim, 2001
vi + 2315 pages. £635
ISBN 3-527-29874-6 (4 vol. set)

Pharmaceutical science has made a tremendous impact on chemistry since perhaps the first synthesis of aspirin in 1853, and subsequent developments in this field have greatly affected so many areas of chemistry. Obvious examples include natural product, peptide, nucleotide and polymer chemistry, surfactants, semisynthesis using microorganisms, and organometallic and inorganic chemistry, but there can be few fields not influenced in some way by the pharmaceutical industry.

Research and development in this industry have made significant contributions to our current understanding of the mechanisms underlying diseases and have been an important stimulus in the development of efficient and economic organic syntheses. There is consequently no shortage of textbooks and journals covering this vast industrial sector in specialist texts of one form or another. Few books attempt to cover this topic in its entirety, so vast is this field. *Pharmaceuticals: classes, therapeutic agents, areas of application* from Wiley–VCH is a notable exception. This four-volume handbook covers virtually every area of chemistry applied to the drug industry in a thorough and understandable way.

The four volumes are divided into nine sections, i.e. introduction and cardiovascular drugs in volume 1, neuropharmaceuticals, gastrointestinal drugs and respiratory tract agents in volume 2, anti-infectives and metabolic drugs in volume 3, and miscellaneous drugs and related technology in volume 4. Each section starts with an introduction, descriptions of the historical development of the field and the economic impact of the main drugs in that therapeutic area. Sections are generally divided into areas of therapeutic application, such as cancer chemotherapy, drugs affecting circulation, antimycotics and antipsychotics/neuroleptics. These areas are introduced by a description of the physiology and pharmacology that underlie the mechanisms of action of drugs and are subdivided into chapters that cover the main chemical classes and compounds. Where applicable, routes of syntheses are given along with chemical name and trade names, as well as the clinical application of drugs launched in most major worldwide markets. All chapters are concluded with a complete list of references.

Additionally, this book also describes the production of antibiotics by fermentation, pharmaceutical dosage forms, drug delivery systems, monoclonal antibody production and applications, veterinary pharmacology, and drug testing and licensing procedures. The comprehensive index contains indexes of the contributing authors, CAS registry numbers for the compounds mentioned throughout the text (well over 2000) and a general index that covers generic names, trade names and chemical names. The physiology and pharmacology descriptions are concise and do not require a specialist knowledge of the subject matter. Likewise, the chemistry is detailed with structures and synthetic pathways presented throughout the text, and this should be understandable by non-chemists. There are plenty of figures and tables to support the text, although I think a glossary of terms might have been useful.

This four-volume set may appear to be just another handbook on pharmaceutical chemistry. Far from it. It is an up-to-date and authoritative reference covering the entire pharmaceutical industry and it will appeal to chemists, pharmacologists and other professionals working in this industry because of its scope, detail and readability.

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