

Book Reviews

Molecular Aspects of Toxicology, by D. E. Hathway. Royal Society of Chemistry, London, 1984, pp. 304, ISBN 0-85186-068-0, £27.50.

This is a welcome addition to the toxicological literature since it is concerned with the mechanisms of toxicity at a molecular level rather than the more classical treatment of signs and symptoms. It comes at a time when the series 'Foreign Compound Metabolism in Mammals', for which Dr Hathway was the Senior Reporter, has been discontinued by the Royal Society of Chemistry and this book will fill some of the gaps left by the Specialist Periodical Reports.

The book is divided into seven sections, viz. toxicity, dose-response relationships, metabolism and pharmacokinetics, pharmacogenetics, mechanisms of the production of biochemical lesions, chemical carcinogenesis and toxicant allergy. Although each section stands on its own, it is easy to relate information from each section for a particular compound by the adequate subject index at the back of the book. The chapters on the metabolic pathways for industrial chemicals and pesticides, kinetic considerations and mode of action studies are particularly relevant today in the light of tragedies like those at Bhopal.

The text is packed with information, with virtually no wasted words. This could have made it difficult to read, but the book has been well produced with plenty of relevant diagrams and chemical formulae to illustrate the points made. This helps to break up the text and give the book a well balanced appearance. The references cited on each page are given in full as a footnote to that page (in the usual Royal Society of Chemistry style) which makes the book very easy to use as a source for further information about particular toxicants.

The author has not been afraid to put toxicity on a firm mathematical footing and it is a pleasure to see the mechanisms of toxicity explained quantitatively as well as qualitatively. Thus, as well as the expected treatment of the kinetics of drug absorption, distribution, metabolism and excretion, sound mathematical treatments of structure-activity considerations, carcinogenic exposure rates, dose relationships etc. are also given.

It is interesting to compare this book with Dr J. A. Timbrell's *Principles of Biochemical Toxicology*, since both books are concerned with the mechanisms of toxicity. Dr Timbrell's book is very much an introduction to the topic, aimed at undergraduates and designed for use as a general bibliography for broad subject areas within toxicology. In contrast, Dr Hathway looks more deeply into these mechanisms and deals more fully with some aspects of toxicology such as chemical carcinogenesis and the production of allergies. Also, many original references are given to make it a very useful source book for information about specific compounds. This makes it a more advanced text, more suitable for researchers than students.

All in all, the book achieves well the aim set by the author, which is to aid the reader to view toxicology with the critical judgment now necessary in such a complicated and expanding science.

A. C. Moffat

New Directions in Molecular Luminescence, by DeLyle Eastwood (Ed.). ASTM Special Publication 822, 1983.

This book is the published version of a Symposium held under ASTM auspices in March 1982 at Atlantic City. While it may thus be already out of date in matters of detail, it is nonetheless of great