

Astronomy: The Evolving Universe. By Michael Zeilik. Pp. xii+529. (Harper and Row: New York and London, 1976.) n.p.

This book will be jostling with about a dozen superficially similar texts for a slice of the American college market, since it is an integrated course aimed at students with an interest in astronomy. What differentiates it from its competitors are two features: it is up-to-date (about 1975), and it weaves the essential science around an intriguing theme, the evolution of the universe and the objects within it. The classical ordering of material is fast falling into disuse as authors seek cosmetic devices to disguise the essential similarity of their books. This one certainly wears an attractive face.

Zeilik's text spreads itself at great length across four major topics: man's changing ideas about the universe; the solar system; stars and galaxies; and cosmic evolution. The test particles so dear to reviewers (black holes, pulsars, exobiology, nucleosynthesis, and quasars) are all here and explained with admirable clarity, along with massive doses of astronomical history, planetary science, and astrophysics.

I believe that this is a really outstanding teaching text for qualitative courses. Every page is packed with facts, and the error rate is astonishingly low. Zeilik clearly understands what writing for students is all about: his material is clear, interesting, correct and complete. Among the many new things I learned was that reading books printed entirely in royal-blue ink is very tiring. Otherwise this is a fine effort that is certain to be adopted for general courses in the US and Canada.

Simon Milton

Principles of Enzyme Kinetics. By Athel Cornish-Bowden. Pp. 206. (Butterworths: London and Boston, Massachusetts, February 1976.) £12.

THE author of this work set himself the task of covering the major aspects of enzyme kinetics in a relatively small book, and the result of this extremely ambitious attempt is that the coverage of the different topics is rather uneven. At best the book is very good indeed and the accounts of the principles behind the schematic methods for deriving kinetic equations and the analysis of progress curves are clearly and logically presented. Some of the other sections are, however, less satisfactory. In the chapters on fast reactions and on the effects of pH and temperature, for example, the author tends to select aspects of the subjects for short com-

ments without providing any detailed account of the general principles involved in the analysis and interpretation of experimental results. In addition the condensed nature of the book leads to the author making a number of categorical statements without any justification, some of which might be regarded as being arguable by others working in the field. For anyone with a reasonable knowledge of enzyme kinetics this book should offer a number of interesting insights, but the patchy coverage does not recommend it as an introductory textbook for the subject.

Books brief

In spite of its limitations I found the book to be extremely valuable for its excellent treatment of statistical methods for evaluating kinetic results. This is a subject that has received scant attention in the past and the lucid account presented here should be of great help to anyone attempting to interpret the results of kinetic experiments. **Keith Tipton**

Antimetabolites of Nucleic Acid Metabolism: The Biochemical Basis of Their Action, with Special Reference to Their Application in Cancer Therapy. By Peter Langen. Pp. xii+273. (Gordon and Breach: New York, London and Paris, December 1975.) £10.

THIS is a rather dull, very condensed and encyclopaedic account of the nature and mode of action of a wide range of anti-metabolites affecting the biosynthesis and function of nucleic acids. It is not a readable book, partly because of the prose style, but also because of the type face used and the somewhat inadequate legends to many of the illustrations.

The first five chapters deal with historical and general features of anti-metabolites, mode of action, acquired resistance, degradation and biochemical aspects of cancer chemotherapy. Each chapter opens with some general considerations before proceeding to illustrate these with specific and detailed reference to particular compounds.

The second part of the book tends to be something of a catalogue of anti-metabolites, some of which receive substantial treatment, whereas

others are dealt with very briefly indeed.

In the foreword, the authors indicate that this new edition contains much new material, but it is a pity that some of this has been dealt with in an addendum rather than being integrated into the text.

As it stands, the book contains a great deal of information and a very extensive bibliography. It will certainly be of value to research workers in this field by drawing together information and ideas from widely scattered sources, but it is a book for a reference library rather than for the individual purchaser. It is unfortunate that it does not include a detailed alphabetical index.

R. M. S. Smellie

Organic Reaction Mechanisms—1974. (An annual survey.) Edited by A. R. Butler and M. J. Perkins. Pp. 659. (Wiley-Interscience: London, New York, Sydney and Toronto, February 1976.) £25.00; \$55.00.

THIS volume, produced by two new editors, follows closely on the pattern set by its predecessors—in itself an excellent recommendation. The period covered is December 1973 to November 1974 and being the tenth volume in the series it incorporates the second quinquennial index. The subdivision of the subject matter has not been changed substantially—reactions of aldehydes and ketones and their derivatives, including enzymic reactions (B. Capon), reactions of acids and their derivatives again including sections of enzymic catalysis and reactions (M. I. Page), radical reactions (D. C. Nonhebel and J. C. Walton), oxidation and reduction (T. W. Bentley), carbenes and nitrenes (M. S. Baird), nucleophilic aromatic substitution including sections on Meisenheimer complexes and benzyne (M. R. Crampton), electrophilic aromatic substitution (B. V. Smith), carbonium ions (R. Baker), nucleophilic aliphatic substitution (I. D. R. Stevens), carbanions and electrophilic-aliphatic substitution (R. B. Boar), elimination reactions, I, polar addition (A. C. Knipe), addition reactions, II, cyclo-addition (W. E. Watts) and molecular rearrangements (A. R. Butler, G. V. Mechan and M. J. Perkins). Each chapter is clearly subdivided, amply illustrated by formulae, fully referenced, and the overall format is of a high standard. The price of the volume is very high even allowing for the detailed content, but this series is a must for all well-stocked libraries of organic chemistry. **A. W. Johnson**