

Enzyme Kinetics: Behavior and Analysis of Rapid Equilibrium and Steady State Enzyme Systems

by I. H. Segel

John Wiley & Sons; New York, London, Sydney, Toronto, 1975

xxii + 957 pages. £ 15.00

The author's declared aim is 'to teach the subject and not just to present a multitude of equations . . . to introduce the varieties of enzyme behaviour to advanced undergraduates and graduate students in the biological sciences and to serve as a useful, accessible reference work on enzyme kinetics for the professional researchers'.

In the reviewer's opinion only the last of these aims has been achieved and that only in a limited way. A first impression of the book is that it contains over 900 pages of algebra with some explanatory sentences interspersed. I don't believe that many undergraduates or graduate students will take the trouble to extract the basic principles of enzyme kinetics from this mass of uncritically presented information. The worst example of this found in the form of 50 pages on the effects of pH and temperature without any real clue as to what we learn about enzymes from these 'once fashionable studies'.

The research worker in areas of biology where enzymology is applied, will find almost all possible derivations of steady state kinetics. I have not checked any equations for errors. It is essential for a book which has as its main merit that it contains all these equations, that they should be correct. For this reason the volume will find an essential place as a work of reference in every library.

However, here again the uncritical attitude of the author is a serious drawback to the non-expert. A detailed study of the book gives the impression that the author lacks wide experience in enzymology. Most of his enormous knowledge comes from book work and not from having solved a range of enzymological problems himself. It is important to bring kinetics into perspective by dealing with raw data. The author states that 'specific enzymes are not discussed except where they represent a unique example of a mechanism'. All this produces a lack of reality in the treatments. The author's declared intention not to deal with transient kinetics is taken to a ridiculous extreme (pages 621–623). A well studied and elsewhere described transient kinetic phenomenon is treated by a sort of verbal step dance. Steady state kinetics certainly forms the essential grammar for the behaviour of enzymes. However, in this day and age no student should be confronted with such a large volume on enzyme kinetics, which contains no information about what can be learned from transient kinetics. I don't think this shows undue prejudice on the part of a practitioner!

H. Gutfreund

Horizons in Biochemistry and Biophysics (Volume 1)

Edited by E. Quagliariello, F. Palmieri and T. P. Singer

Addison-Wesley Publishers Ltd; London, 1974

xiii + 344 pages. £ 3.70 (hardback £ 7.45)

This volume is the first in a series whose aim is to call attention to 'major conceptual and methodological advances in Biochemistry and Biophysics . . . and to the direction future research in these fields is likely to take'.

Is yet another review publication necessary? In the

words of the editors, articles in '*Horizons*' must be 'well written and unencumbered by jargon, extensive documentation or bibliography' and comprehensible to a wide range of students, teachers and practising scientists.

The value of '*Horizons*' may be judged by the above