

## BOOK REVIEW

*AN ELECTRONIC OUTLINE OF ORGANIC CHEMISTRY.* By S. Horwood Tucker. Pp. xvi + 478 (including Index). University of London Press, Ltd., London, 1959. 63s.

The publication of yet another text-book of Organic Chemistry probably requires some word of explanation for its appearance and the following from the author's own preface is perhaps the best apology. "*The book herein presented has been written for students* (reviewer's italics) and its aim is to present in small bulk, as much theory as is essential for a working understanding of the reactions of organic compounds. Whilst electronic theory is its main theme, for didactic reasons the time-honoured order of presentation of factual knowledge is retained." After a brief introduction on the structure of the atom and the types of bonds found in organic chemistry, there follows a chapter on the basic concepts of electronic theory. Thereafter the normal topics follow in order, viz. alkanes, olefins, acetylenes, alcohols, ethers, aldehydes and ketones, acids and esters, aromatic compounds, electrophilic and nucleophilic substitution amines and finally heterocyclic compounds. Throughout the text in appropriate places, the various substitution and displacement reactions, rearrangements and migrations are discussed.

The student would best approach the text already equipped with an elementary knowledge of functional group reactions. Given that basis, the general clarity of writing and arrangement seem well suited for teaching purposes. In providing a student text, there is a general tendency to overestimate the amount of material which a student can usefully read and digest: indeed, we have all suffered from "the heavy matrix of comprehensive fact." In making his selection of material the author has had this fact continually in mind. The result is a selection of the more important aspects of organic chemistry—considered throughout against the background of electronic theory.

Individual readers may, of course, find that favourite topics have been omitted and the reviewer personally regrets that there is no mention of conformational analysis.

Of necessity somewhat condensed in style, there are sections where clarity is sacrificed and the section on synartesis (p. 327) suffers thus. The solvolysis and rearrangement of bornyl and isobornyl chlorides is not easy to follow and could well be expanded. The author makes frequent reference to "Ingold" and adoption of the formulae for these epimeric chlorides given on p. 515 of this reference, rather than the ones actually used, would aid in the understanding of this phenomenon.

Inevitably in teaching one tends to adopt a somewhat dogmatic style. Thus on p. 149 the author deals with the formation of ethers and olefins from alcohols, arguing persuasively as to the mechanism: the student might be forgiven for concluding that the mechanism was securely based on reliable experimental evidence. The symbolism of p. 150 suggests that a carbonium ion is involved as an intermediate whereas there is no direct evidence upon which to decide this point and whether or no the mechanism is mono or bimolecular. It would have been preferable to make this point more clearly. These, however, are isolated instances which the present reviewer has noted and a welcome must be given to the book as being genuinely within the scope of the undergraduate for whose further reading copious references have been provided.

The standard of production is high and the result is a book which is as elegantly bound as it is pleasingly printed.

D. W. M.