

INTERMEDIARIES FOR SYNTHESSES

Enamines

Their Synthesis, Structure and Reactions. Edited by A. Gilbert Cook. Pp. xi+515. (Dekker: New York and London, August 1969.) \$35.75; 339s.

THIS book provides a much needed review of a popular and useful field of chemistry. The last sizable review, the one by J. Szmuszkovicz, appeared in 1964 and preceded (and no doubt stimulated) a great deal of work, not all of which was trivial filling in of detail. One welcomes, therefore, a large book covering the whole subject up to about 1968. Several of the individual chapters are especially useful; that by G. H. Alt on the most important of all the reactions of enamines, electrophilic substitution and addition, that by A. G. Cook on cycloadditions, and that by M. E. Kuehne on enamines in organic synthesis are particularly worthy of mention, the last, for example, having 731 references. The book is lavishly supplied with structural diagrams and words are comparatively sparsely distributed, which is all as it should be, though the absence of numbers from the structural diagrams in Kuehne's chapter makes for some difficulty in finding references for the reactions illustrated. Historical matters are not touched on to any extent. Errors are not difficult to find: a few structures, and some comparatively minor omissions and, most particularly, the spelling of people's names; but none of these is liable to mislead the reader seriously. Indeed, the errors of omission in any one chapter are often made up for in another chapter.

The editor has explicitly enjoined his authors to take advantage of a full and free interpretation of the chapter headings they were given. Because there is obviously, from the examples I have given above, considerable overlap between the subject matter of each, it is not surprising to find a large number of papers referred to in three or four of the chapters. For instance, although my own contribution to the subject is modest, the same work is cited in four of the eight chapters; this is excessively repetitive in a book which is designed to cover the field, not to tour it repeatedly.

This is not good editorial policy; indeed, it borders on carelessness when a book is stretched out in this way and then offered at a high price. Most readers would prefer one good coherent story instead of several. The authors would have had to do less work, the price could have been lower and the book might have had a wider influence.

This kind of book, an edited collection of quite separate chapters, is getting quite common. In some cases, such as Olah's series on the Friedel-Crafts reaction and de Mayo's on molecular rearrangements, the editor has clearly made some effort to cut down this duplication from chapter to chapter. In other books, for example this book and Patai's series on functional groups, little effort in this direction seems to have been made. Editors ought not to take on lightly what should be an important, laborious and responsible task. Libraries will be obliged to buy this book. It is a pity that it is not more nearly the definitive work on the field.

IAN FLEMING

NEW CHEMICAL JOURNAL

Synthesis

International Journal of Methods in Synthetic Organic Chemistry. Monthly. Vol. 1, No. 1. (Georg Thieme Verlag: Stuttgart; Academic Press: New York and London, September 1969.) DM 140; \$35 a year.

IN their introduction to this new journal the editors write: "There are over 300 chemical journals published throughout the world. Why then is it necessary to publish another one?", and it is a good question. The editors go on to provide the answer themselves by saying "Because there is a need for it", and they propose to satisfy such a need by publishing three types of contribution: reviews

which will survey a field with particular emphasis on preparative aspects and methods; communications which will briefly report new synthetic methods or significant improvements on old ones; and short abstracts (forty-four in this issue) culled from the recent literature. In this latter feature, the coverage can hardly be comprehensive; the reader will still be obliged to turn to the usual literature sources and is unlikely to be "spared the time-consuming labour of searching through various publications". With such a pattern of contributions, it is difficult to see how some element of repetitiveness can be avoided and, though a good deal of valuable information may well be provided, one rather doubts whether, on their quoted grounds at least, the editors have made out their case for a new journal.

That said, there are a number of interesting things in this issue: E. E. Gilbert on recent developments in sulphonation and sulphation, D. Seebach on nucleophilic acylation with 2-lithio-1,3-dithianes and, perhaps most interesting, J. I. G. Cadogan on phosphite-reduction of aromatic nitro-compounds as a route to heterocycles. There are also five communications, averaging just less than a page each. It is, of course, impossible to tell whether this issue is typical of what is to come either in quality or in quantity, though so far as the latter is concerned approximately 25 shillings seems rather a lot for 46 pages of text.

PETER SYKES

ANALYSING METAL COMPLEXES

Polarography of Metal Complexes

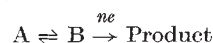
By D. R. Crow. Pp. xiii+203. (Academic Press: London and New York, July 1969.) 65s; \$10.

THIS volume is concerned with the elucidation of data for metal coordination compounds and, as such, should be of considerable help to scientists with only a limited experience of polarography. The metal coordination compounds are usually reducible at a dropping mercury electrode and an analysis of the polarograms obtained enables the thermodynamic and kinetic parameters of the system to be determined. The problems are complicated by the frequent existence of dynamic equilibria between the various complexes and the aquo-ion, for example,



making the interpretation more complex.

The author aims to bring together the principal methods whereby the polarographic data can be interpreted. The first three chapters are concerned with the nature of the complexes, the relevant electrochemistry as applied to the polarographic method and some modern developments in polarography. Subsequently, the methods for obtaining formulae and stability constants in diffusion controlled systems are discussed. The production of the so-called kinetic waves for systems of the type



where A is electro-inactive in the potential region under discussion and B is electro-active, is analysed so that the shape of the polarograms, the shift in half-wave potential and the coordination number can be calculated. This is followed by a discussion in which the electrode processes of the complexed metal ions are traced in terms of passage across the double layer, the formation of the transition state with electrode surface and the electronic rearrangement before electron transfer.

The author has taken the derivations of equations such as the Ilkovic equation to a series of appendixes so that "the development of the material flows smoothly without the necessity for the somewhat distracting parentheses of involved derivations". Certainly, I did not find the reasonably complex derivations that were within the text distracting and, while not being unduly critical, I have a