

Unfortunately the book has several inconsistencies in the use of symbols and abbreviations, and there are other signs of hasty preparation. Perhaps this is a reflexion of the immense amount of work involved in putting together a work of this sort. On the whole, however, this is an admirable collation of records gathered over the past six years, and the inclusion of lists of lichens and fungi (which have not previously been listed for Berkshire) is a commendable novelty. It is a pity that the design and layout of the book are exceptionally ugly, but in spite of this Bowen's *Flora* should be a stimulating source of information for local field naturalists for many years to come.

A. R. PERRY

MIGMATITES

Migmatites and the Origin of Granitic Rocks

By K. R. Mehnert. Pp. x+393. (Elsevier: Amsterdam and New York, 1968.) 190s.

THIS is the first textbook to have been produced on the subject of migmatites; it also relates to the origin of granitic rocks, for this is a topic which is inseparable from that of migmatites. It is particularly timely that this book should have appeared when the selected works of J. J. Sederholm, the pioneer in the study of migmatites, have recently been published in a single volume.

The subject matter of the book is extremely fully documented. Detailed descriptions of structures and textures of migmatites are succeeded by critical discussion of experimental data, geological thermometry, migration of components and geochemistry of granitic rocks. The second half of the book considers the magmatic, anatexic and metasomatic modes of origin of granites and the criteria by which these have been judged. The history of development of ideas on the genesis of granites emerges very effectively and reference to relevant work is comprehensive and fully up to date. The illustrations are admirable; field and microphotographs are well chosen and of high quality.

The book as a whole is well organized and the treatment systematic, notable achievements for a topic of such complexity. It is, however, much more than a well ordered compilation, for clearly the author's own ideas provide the means by which the great body of data is synthesized. Nevertheless, the work shows an objectivity which is the more commendable as almost every aspect has been the subject of contention and controversy. It is therefore perhaps not surprising that in some sections of the book effective conclusions appear to elude the author.

The final chapter is a convenient summary of the contents of the book and a review of the main conclusions. The author's views on the significance of migmatites and granites in understanding the nature and behaviour of the crust of the Earth foreshadowed in earlier sections are here clearly set forth.

The book is written in a clear and readable style, but an English idiom has not always been achieved in translation. In some passages this defect leads to ambiguity; occasionally, too, there are strange words or words strangely used.

B. C. KING

FOR PRACTISING CHEMISTS

Reduction: Techniques and Applications in Organic Synthesis

By Robert L. Augustine. Pp. ix+242. (Dekker: New York, August 1968.) \$12.75.

THIS book is one of a series in which various techniques of organic chemistry are reviewed, the volume on hydrogenation having already appeared. The emphasis is on the practical aspects of the techniques; in this volume

(as in the earlier), recipes are printed in bold face. This emphasis makes these books very useful in the laboratory and, indeed, complementary to that other very useful book, Fieser and Fieser's *Reagents for Organic Synthesis*, in which, as I remarked in a review in these pages, the one limitation was the way in which the various processes, such as reduction, are scattered throughout the book.

"Reduction", however, is a grossly misleading title. The book contains three reviews: on "Mixed Hydrides", on "Dissolving Metal Reductions" and on "Deoxygenation of Carbonyl Compounds", and is therefore far from having the comprehensiveness suggested by the title. This does not diminish the usefulness of what we do get; but intending purchasers should be warned.

The first review (M. N. Rerick) takes lithium aluminium hydride and sodium borohydride as being already well reviewed and understood and concentrates on the large number of modified hydrides obtained by the addition of such reagents as boron trifluoride, aluminium chloride, pyridine, alcohols and so on. The various species which result from these mixtures and their selective reducing properties are summarized; but what is obvious is that there are so many of these reagents, each one of which has been used on a comparatively small number of occasions, that selection of the best reagent for a particular purpose is still not easy.

The second review (M. Smith) is half committed to the use of metal-ammonia and metal-amine reductions, with special emphasis on the less familiar events rather than on the reduction of aromatic rings. The second half covers all the other common dissolving metal reductions—classified by the process occurring, not by the particular metal occasioning it. This chapter seems to me the most useful, both in its practical content and in the clarity of the organization and presentation of a large subject.

The third review (W. Reusch) brings together the Wolff-Kishner, the Clemmensen and the desulphurization reactions, which are dealt with in turn and then usefully compared. This chapter is particularly helpful in bringing together those systems such as $\alpha\beta$ -epoxy ketones and $\alpha\beta$ -unsaturated ketones which do not behave themselves as a first year undergraduate might expect them to.

This book is not for undergraduates but for all practising organic chemists, who will need the information it contains.

IAN FLEMING

REFRACTORY COMPOUNDS

Anisotropy in Single-Crystal Refractory Compounds

Edited by Fred Wm. Vahldiek and Stanley A. Mersol. Vol. 1: Pp. xix+405. Vol. 2: Pp. xi+493. (Plenum: New York, 1968.) \$45 the set.

THIS work is a collection of papers presented at an international symposium to celebrate the fiftieth anniversary of materials research in the United States Air Force. The principal objective of that meeting was to bring together scientists studying aspects of anisotropy in single-crystal refractory compounds. The first volume of the proceedings is subdivided into four sections. The first of these concerns crystal structure and chemistry. This includes four papers giving new and useful data on various refractory compounds with one other paper on paracrystalline distortions. Electronic structure and bonding is the basis of the second section containing five papers. These papers primarily consider the various types of bonding in refractory compounds and indicate a continued divergence of opinion concerning the relative importance of the ionic component. One paper in this section, which outlines the nature of electrical conduction in rutile, is particularly noteworthy for its clarity and economical presentation. Non-stoichiometry and phase relations form the principal theme of the four papers in the third section. There are