Applied Hydrodynamics

By H. R. Vallentine. Pp. viii+272. (London: Butterworths Scientific Publications, 1959.) 50*s*.

THIS is a text-book not so much of applied hydrodynamics as of classical theoretical hydrodynamics in an accessible form for application. It is meant for students of engineering and physics as well as applied mathematics.

The mathematics of the subject is expounded in some detail. A student with limited mathematical ability will probably find enlightenment here on subjects about which he would learn little from a more concise account, though occasionally he may have difficulty in seeing the wood as well as the trees.

In an introductory chapter, readers are forewarned of the important differences between inviscid and real fluid-flows. This is welcome. The matter might reasonably have been given more emphasis throughout the book, and in a future edition the apparent identification of near-irrotational flow outside boundary layers with turbulent flow ought to be corrected.

There is a chapter on the numerical and experimental-analogy methods for solving Laplace's equation. Here and elsewhere seepage problems are included among the illustrations; these help to justify treating solutions for boundaries at which separation would occur in ordinary fluid-flow at high Reynolds numbers. Aerofoil and wing theory get less attention than they deserve, apart from aerofoils obtained by conformal transformation of circles.

The book will probably be most useful as a hydrodynamics supplement to one of the better of the available engineering text-books of applied fluid mechanics, to be dipped into as required. Its readers should be well prepared with an understanding of real fluid flow, for while the reminders in it of the realities of applied hydrodynamics are useful, they are not complete enough to stand alone. E. P. SUTTON

British Caenozoic Fossils

(Tertiary and Quaternary). Pp. vi+130 (44 plates). (London: British Museum (Natural History), 1959.) 6*s*.

THERE has long been a need for some kind of comprehensive yet concise handbook illustrating the fossils most commonly found in the various strata of Great Britain. "British Caenozoic Fossils", prepared by the staff of the Natural History section of the British Museum, is the first of a series which will eventually embrace also the Mesozoic and Palæozoic fossils of Britain, and will be widely welcomed. The present volume contains line drawings of 354 Tertiary and Quaternary fossils, together with tables giving their geological distributions and a coloured map showing the principal fossiliferous localities.

The aim of the series is modestly described in the preface as being "to enable the young, or those without experience, to know what fossils they may expect to find, or, even more important from our point of view, to identify for themselves those they have collected"; but there can be few mature professional geologists in Britain who would not be glad to have this book on their shelves or, more to the point, in their pockets when in the field. For the latter purpose the book is ideal; it is compact (approximately 8½ in. × 5½ in.), and clearly printed on strong paper which is unlikely to be ruined by the occasional spot of rain. The drawings are a delight to the eye, and the typography and layout show a concern for clarity and style in every detail which is all too rare at the present day, and surely unequalled in a book of this price. The only criticism which might be levelled at it is that a work of such excellence deserves a more robust and attractive cover. The companion volumes will be eagerly awaited.

Organic Syntheses

Vol. 39. Edited by Max Tishler. (An Annual Publication of Satisfactory Methods for the Preparation of Organic Chemicals.) Pp. vii+114. (New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1959.) 32*s*. net.

OVER a long period a large number of the more familiar organic chemicals have been dealt with in this annual publication of satisfactory methods for their preparation. The later volumes have accordingly contained a larger proportion of more specialized structures, many of which were unknown at the inception of the series. The great diversity of organic types represented is well illustrated in the present selection of 31 synthetic preparations, including such items as benzeneboronic anhydride, di-*n*-butyldivinyltin, 9-methylfluorene, several derivatives of furan, and the heavily unsaturated alcohol, HC : C·CH(OH)·CH : CH·Ph, resulting from the interaction of ethynylmagnesium bromide and cinnamaldehyde. An interesting pair of stereoisomers is provided by the low-melting and high-melting forms of 9, 10-dihydroxystearic acid, prepared from oleic and elaidic acids respectively.

The subject index to Volume 39, occupying 34 pages, is a cumulative one, comprising material from volumes 30–39. All the entries in the preceding 29 issues are indexed in Collective Volumes 1, 2, and 3: details of any specific substance are therefore easy to trace. It is almost needless to add that this invaluable series continues to maintain its high reputation for accuracy and reliability. JOHN READ

Glutathione

Edited by E. M. Crook. (Biochemical Society Symposium No. 17, held at Senate House, University of London, February 15, 1958.) Pp. v+116. (Cambridge: At the University Press, 1959.) Cloth 22*s*. 6*d*.; Paper 15*s*.

THE ubiquity of glutathione in living organisms has prompted its widespread study and makes opportune the publication of this symposium, which includes much work carried out after the Ridgefield Symposium of 1953, also entitled "Glutathione". There is no overlap in the contributions to the two symposia, and the present symposium is characteristically different from its predecessor also in presenting a major part of its information in terms of the organisms or organs in which the behaviour of glutathione has been studied. There are considered successively the tissues of plants, of animals, neural tissues, and the lens of the eye. In each of these contributions the reviewers (L. W. Mapson, P. C. Jocelyn, H. McIlwain and S. G. Waley) place their own investigations in a wider setting of the biochemistry of the system concerned. Contributions on the chemistry and analysis of glutathione (F. A. Isherwood, C. G. Thomson and H. Martin) and on its role with other thiols in radiation damage (D. B. Hope) complete the Symposium. It is regretted that there is no index.