ductions from the evidence suggested by J. W. Hedgpeth[1].

The more solid *Rhizostoma octopus*, normally confined to southern and western coasts, has the manubrial opening divided into a complex series of minute openings along the ramifying oral arms admirably fitting the needs of a jellyfish feeding on the smaller members of the zooplankton. The hemispherical, thick jellied and luminescent *Pelagia noctiluca* is less common inshore but occurs occasionally in swarms.

The oceanic species of *Nausithoë*, *Atolla*, *Paraphyllina* and *Periphylla* are fully described and illustrated although, inevitably, far less is known about their biology, notably their life histories. A most significant section of the British marine fauna receives definitive treatment in this handsomely produced volume and all marine biologists are in debt to Sir Frederick Russell. C. M. YONGE

[1] Hedgpeth, J. W., *Scient. Mon.*, **60**, 227 (1945).

PLANT ULTRASTRUCTURE

Electron Microscopy and Plant Ultrastructure

By A. W. Robards. (European Plant Biology Series.) Pp. 298. (McGraw-Hill: Maidenhead and New York, September 1970.) 72*s*.

PLANT ultrastructure is at last becoming quite well covered by textbooks of a variety of levels. This book aims at the level of the undergraduate course, and sets out to describe both plant ultrastructure and the methods by which it is studied.

The first part of the book deals with the electron microscope and its ancillary techniques. The electron microscope is covered clearly and straightforwardly, though with some unnecessary passages about historical development and constructional details. The micrographs showing the effects of over and under focus and astigmatism are particularly useful. The chapter on techniques describes adequately most of what it covers, but has some serious omissions. Negative staining is dismissed in a few lines, differential centrifugation is not described at all, and the section on freeze-etching makes no mention of antifreeze agents or prefixation. This is particularly regrettable because the results of these techniques are well dealt with in the rest of the book.

The following chapters are each devoted to a single organelle or group of organelles. In his introduction to each topic, Dr Robards tends to forget his readers. A botany undergraduate is not likely to need a table showing him the principal groups of plants and microorganisms, nor the information that heterotrophic angiosperms exist. This will tend to put off potential readers, but it should not, for Robards's ultrastructural descriptions are excellent. He details the structure, as elucidated by various means, of each organelle, and describes what is known of its function. He does not gloss over controversy, but discusses both sides fairly. The only fault is a slight shortage of photographs, presumably on grounds of economy, even though lithographic reproduction is used. The photographs are, however, well chosen, and there is an abundance of line diagrams.

There follows a chapter giving a comprehensive but cursory survey of the specialized structure of different cells. As the author rightly points out, it would be impossible to do more in a work of this scale. The remaining chapters, on algae, fungi, prokaryotes and viruses, have been contributed by J. D. Dodge, R. Marchant and D. G. Smith. Each is an excellently clear account of the chief ultrastructural features of the group concerned. Although microorganisms have been extensively used in investigating specific problems, their general ultrastructure tends to be inadequately covered in textbooks.

The book as a whole is very readable: it is also useful as a reference book because of its comprehensive index, a detailed contents list and a straightforward layout. I hope the tendency to talk down to the reader on general topics does not antagonize potential purchasers, for the important part of the book, the description of ultrastructure, is an excellent advanced and up to date text.

GUY COX

INSIDE THE FLOWERING PLANT

The Physiology of Flowering Plants

Their Growth and Development. By H. E. Street and Helgi Öpik. Pp. viii+263. (Arnold: London, August 1970.) 70*s* boards; 35*s* paper.

THERE is currently almost an embarrassment of simple and attractive volumes available to introduce the absolute novice to the flowering plant and its problems. The advanced student and the specialist are similarly well catered for, but what Professor Street and Dr Öpik have done so well is to combine the best features of each of these extremes into an excellent intermediate text; a guide to plant physiology for those who already have some knowledge of plant anatomy, biochemistry and biophysics. Indeed such prior knowledge is essential, for unlike so many other plant physiology texts, the authors have confined themselves strictly to physiology. Little space is spared to introduce, for example, basic plant biochemistry, or to develop the concept of metabolic pathways.

The authors have obviously tried hard to make their book easy to read, and they have succeeded. It is rare to find an introductory textbook which is quite so enjoyable, either to study for information or for merely browsing through for interest. In addition to chapters on the more usual subjects such as germination, water relations, mineral nutrition and growth, due emphasis is given to such neglected topics as frost and drought hardiness and energy economy. Other chapters cover transport of metabolites, growth, cell differentiation, growth movements and morphogenesis. Each subject is developed in sufficient detail to satisfy the needs of the first or second year undergraduate, and a short list of the more important references and a guide to further reading are given at the end of each chapter.

The book has been nicely laid out and the figures are clear, but it is a great pity that the volume could not have been more attractively bound. If it sells as well as it deserves to, it will owe nothing of its success to the drab olive green colour of the cover (why must botanical texts be bound in green ?) or to the uninspiring design with which it is ornamented. ALAN CANE

REVIEW OF GENETICS

Advances in Human Genetics

No. 1. Edited by Harry Harris and Kurt Hirschhorn. Pp. xi+339. (Plenum: New York and London, 1970.) $19.50.

As the editors say in their preface to this volume, original papers dealing with different aspects of human genetics are appearing so frequently and in so many journals, and result from investigations originating in so many different disciplines, that there is a real need for critical review articles which summarize the positions reached in different areas. This first volume of a new series contains five such articles.

As might be expected with editors of this distinction and experience, the authors of the five chapters are well chosen and briefed, and each chapter is a mine of infor-