REVIEWS

THE MOLECULAR BASIS OF HEREDITY. By A. R. Peacocke and R. B. Drysdale. Butterworths, London. 1965. Pp. 180+viii. 37s. 6d.

This book deals with the chemical and biological properties of nucleic acids. An introductory section gives a good summary of the main landmarks in the history of the subject. The main body of the book includes four chapters in which the main emphasis is on chemistry (on DNA, RNA, nucleoproteins and chemical modification of nucleic acids), and four which deal with biological function (replication, the control and mechanism of protein synthesis, and the genetic code). There is also a chapter on chromosome structure.

The authors are generally content to summarise the literature, adding very little comment of their own. For instance, in dealing with chromosome structure, they make clear the wide gap which exists between the multi-stranded structure suggested by electron microscopy and the rather simple molecular models designed to explain semi-conservative replication, but they make no attempt to weigh one opinion against the other. Understandably, when so wide a field is covered at an advanced level in so few pages, the writing is very condensed, indeed, almost telegraphic at times. The whole treatment is reminiscent of that of an "Annual Reviews" article, and the book, with its scholarly approach and thorough documentation, is a good example of this genre.

Unfortunately, the content is mostly what one might have found in Annual Reviews for the year before last. In the main body of the book there is only a handful of references to work as recent as 1963. The authors state in their preface (dated December 1964) that the book was developed from a review article published in 1961, which, in turn, was based on a shorter article of 1957. Here and there one finds passages which might almost have survived unchanged from the ancestral review. For instance, in a relatively long section on the enzymic synthesis of RNA the only enzyme mentioned is Ochoa's polynucleotide phosphorylase. To be fair, the authors do make an attempt to get abreast of current developments in a five page Addendum, in which they devote a few lines each to such topics as DNA-primed RNA synthesis, polysomes, DNA-RNA hybridisation and DNA-protein colinearity. But one cannot help feeling that if the aim was to produce a book for 1965 it would have been better to have made a fresh start.

Not all the book is out of date to the same extent. The more chemical chapters, in particular, will be valuable for would-be molecular geneticists, and the book as a whole will remain a good source of information about a certain stage in the development of its subject. J. R. S. FINCHAM.

THE CYTOPLASM IN HEREDITY. D. Wilkie. Methuen & Co. Ltd., London. 1964. Pp. 115. 16s.

PLASMATISCHE VERERBUNG. R. Hagemann. Veb Gustav Fischer Verlag. Jena. 1964. Pp. 270. DM 34.40.

The publication during the last few years of three text books on extrachromosomal inheritance, including the two under review, is a clear