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BOOK REVIEW

Molecular Biology of Photosynthesis: edited by GOVINDJEE *et al.*, 815 + xxviii pp., Kluwer, Dordrecht, 1988, £130.

The contribution of modern molecular biology to biochemistry is now considerable and it is probably safe to say that no area of research has remained entirely untouched by the recent explosive development of the techniques of molecular genetics. In plant biochemistry, molecular biology has been intensively applied to photosynthesis and, as a consequence, we are now getting to grips with some of the intractable problems that have been around for a very long time. For example, the mode of action of various herbicides, the nature of electron donors and acceptors within the photosynthetic reaction centres, and the relative involvement of nuclear and chloroplast genes in the synthesis of the components of photosynthesis are all areas of former uncertainty that are yielding to this new research approach.

This book consists of a collection of papers reprinted from very recent issues of the journal '*Photosynthesis Research*'. It is therefore absolutely up-to-date and forms a valuable record of the current state of the art in the application of molecular biology to photosynthesis. All the 38 articles in this book are written by acknowledged experts, and most are mini-reviews that serve as an excellent introduction for the less specialized researcher. Specific topics covered include sequencing studies of the chloroplast and cyanobacterial genome and studies into the structure and organization of the light harvesting systems, reaction centres, components of the electron transport chain and ATP synthase. In addition, the contributions of molecular biology to our understanding of both CO_2 fixation and the incorporation of cytoplasmically synthesized proteins into the chloroplast are also covered.

All in all then, this is a comprehensive and useful book, though it is not aimed at anyone with no previous knowledge of photosynthesis. Nor is it really a volume for those who know nothing of molecular biology, though a very useful glossary of terms is provided at the beginning of the book. For those who do not subscribe, or have access, to '*Photosynthesis Research*', it is an ideal way to collect the latest information on a fascinating and rapidly advancing research area. However, at £130, the book is very expensive and I cannot, in all honesty, see any but the most dedicated photosynthesis researchers actually purchasing a copy. On the other hand, it should be a compulsory library purchase for any organization with an interest in photosynthesis.

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