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BOOK REVIEW

DAS, G.: ASPECTS OF PHOTOSYNTHESIS. — Mitra Das Publ., 121/A, Bipin Behari Ganguly Street, Calcutta 700012, India, 1981. k + 176 + xxvii pp. U.S. \$ 28.00. Available in U.S.A. and Canada from Dr. G. K. Das, P.O. Box 718, Station B, Ottawa, Canada, K1P 5P8.

This book is a well-written introduction to photosynthesis directed by the author to university teachers and students, and research scientists who wish to grasp quickly an understanding of this vital process. It is divided into 3 parts. Part I, "Fundamentals of photosynthesis", consists of 9 short chapters and is a concise presentation of the basic facts of photosynthesis including the chloroplast and its pigments, the two photosystems, electron transport, photophosphorylation and CO₂ fixation. Part II, "Controlling factors, genetic role, and bacterial photosynthesis", consists of 3 chapters. The first, Chapter 10, is concerned with the factors affecting higher plant photosynthesis and to this point the book differs from equivalent chapters in textbooks on plant physiology mainly in added details: for example, four pages are devoted to the Mitchell hypothesis of ATP synthesis, and the significance of C₄ metabolism, photorespiration, and glycolate metabolism occupies 12 pages. The author employs extensive cross-referencing as a teaching device. Chapter 11 on genetic control of chloroplast assembly and chlorophyll biosynthesis introduces a current emphasis of research, and Chapter 12 adds bacterial photosynthesis usually left out of plant physiology texts. Part II. "Applied aspects of photosynthesis," is a departure from tradition for books of this sort. The discussion of photosynthesis in relation to nitrogen metabolism (Chapter 13) and fruit development (Chapter 14) is of especial interest to students of crop science.

In summary, this book is a recommended addition to the library shelf where it can serve as a convenient and attractive up-to-date summary of photosynthesis, and, through the 22-page bibliography, conveniently separated into books, reviews, and journal references, as initiation to the extensive literature. The book itself is attractively assembled although somewhat marred by the inevitable printer's errors, most of which the author has painstakingly corrected by hand. The text is liberally endowed with diagrams of pathways and chemical structures, and 13 plates of EM pictures, many of them the author's own, are a useful addition at the end. Numerous footnotes serve as cross-links to related chapters and supplement the 2-page glossary of terms. The book is indexed.

C. NOZZOLILLO (Ottawa)