

Molecular biology is the main aspect of the last block. Two chapters deal with chloroplast gene expression. M.K. Roell and W. Gruissem explain regulation of syntheses at multiple level (transcription, translation, and post regulations). Results of chloroplast transformation and prospects of future research are shown by J.M. Erickson. Nuclear gene expression is the topic of chapters by J.C. Gray (regulation of expression in light reactions of photosynthesis) and M. Reith (evolution of plastids and of the photosynthetic apparatus).

The chapters fully cover the topic of the volume, sometimes with some overlapping. They bring broad lists of full references (per chapter < 100 references 14 times, 100-200 13 times, > 200 7 times). Therefore I regret that no authors' index is supplemented: such index would change the book into a welcome source of references. Nevertheless, the subject index is very detailed. I do not like the idea of distinguishing editors and assistant editors: this will certainly introduce a mess in future references. Generally, this volume is, similarly to the preceding ones, a necessity for every photosynthesis library and for all libraries of universities.

Z. ŠESTÁK (*Praha*)

Ord, M.G., Stocken, L.A. (ed.): **Foundations of Modern Biochemistry. Vol. 3. Further Milestones in Biochemistry.** - JAI Press, Greenwich - London 1997. ISBN 1-7623-0078-7. 346 pp., USD 112.50.

Third volume of this encyclopedia presents in nine chapters the progress in various fields of animal, plant, and microbial biochemistry. With one exception, the chapters were written by English authors.

Chapter 2 (S.J. Ferguson) deals with mechanisms of bioenergetics. It starts with the revolutionary chemiosmotic hypothesis of Mitchell (1961), the P/O ratios, participation of sodium transport, resolution of the structure of ATP synthase and of its functions, participation of cytochromes, *etc.* Chapter 3 (F.R. Whatley) overviews the mechanisms of photosynthesis in general, starting from the hypothesis of van Helmont. It is an interesting summary for students, but it does not bring any new information to photosynthesis researchers, may be with the exception of Fig. 12 that shows the probable sites of action of various inhibitors of photosynthetic electron transfer.

Further chapters deal with muscle contraction and relaxation, bacterial motility (includes the photoresponses of photosynthetic bacteria and halobacteria), cell membrane receptors, protein phosphorylation, regulation of expression of microbial genes, and antibody specificity and diversity. Pp. 165-171 brings 28 portraits of well-known biochemists, among others of D.I. Arnon and R. Hill. Good author and subject indexes are supplemented.

I regret that the scope of the book is not clear: the topics are chosen freely, without any time limit, some chapters go into much detail, but other ones are cursory. Eventual future volumes will certainly require a better editorial work.

Z. ŠESTÁK (*Praha*)