Advances in Molecular and Cell Biology. Vol. 10. - JAI Press, Greenwich - London 1994. 437 pp. Ł 62.50. ISBN 1-55938-710-6.

The 10th volume of the series Advances in Molecular Biology (series editor E.E. Bittar) is dedicated to molecular processes of photosynthesis (guest editor J. Barber). The guest editor wrote a preface in which he gave some additional information on the ten chapters in this volume. Their 29 authors are mostly well-known scientists from the U.S.A. (20), the U.K. (4), Germany (2), Sweden (2), and Australia (1).

The chapters deal with: composition and organisation of thylakoid membranes (including lateral heterogeneity, targeting and diffusion of proteins and redox components); antenna pigment-protein complexes, their variance in organisms, biosynthesis and genetics; variations in phycobilisome structure as adaptations to irradiance, its chromatic properties, nitrogen and sulphur, *etc.*; photoprotection and photoinhibition (functions of carotenoids in protection, turnover of the D1 protein, *etc.*); characterisation and genetics of mutant bacterial photosynthetic reaction centres; proton translocating enzymes in photosynthetic membranes; assembly and activities of ribulose-1,5-bisphosphate carboxylase/oxygenase (includes also models of subunits of the enzyme); the ferredoxin-thioredoxin system in regulating photosynthetic processes; chaperonins, their localisation and functions; protein translocation across chloroplast membranes, *etc.*

All chapters are fairly detailed reviews of literature (88 to 333 ref.) on actual topics of photosynthesis research. Unfortunately, as some authors state, the texts were not updated since chapter completion in 1992. Full references are given and hence the volume could serve as a thesaurus of references if an author index were not missing. A subject index of medium size is supplemented. In summary, a very useful book for photosynthesis researchers, teachers and students.

Z. ŠESTÁK (*Praha*)