bioluminescence in dinoflagellates, which is followed by an account of structural studies on bacterial luciferase enzymes, as pursued by recombinant DNA technology. Many shorter papers follow, largely devoted to cloning and expression of luciferase genes and to the biochemistry of firefly luciferase.

Part four is entitled "luminescence – applications", although many applications had obviously been covered in the first three parts. Most of the papers in this section could have fitted into earlier sections, which is not to dispute their interest. For example, Kather and Wieland discuss applications of light emission in routine analysis of metabolites, whereas Hastings (J.G.M., not J.W.!) reviews the use of luminescence in bacterial detection and identification. A luminescent ATP assay for prediction of the shelf-life of foods is described by Stannard and Williams.

Despite the fact that this book makes no attempt to report any of the discussions that took place at the conference, and its very sketchy subject index, it is still a useful compendium of papers that shows who is doing what. The review articles that begin each section are very helpful. Hence I recommend this book to people interested in the field, although a price of £55 for a camera-ready work may deter individual purchase.

Barry Halliwell

Techniques for the Analysis of Membrane Proteins

Edited by C.I. Ragan and R.J. Cherry

Chapman and Hall; London, New York, 1986

xi + 441 pages. £48.50

The detailed study of membrane proteins has only really become possible in the last decade or so. As such, the literature in this area tends to be extremely fragmentary and widely dispersed. It is, therefore, a great pleasure to come across a single volume that brings together authoritative reviews on topics as divergent as the purification of intrinsic membrane proteins, their reconstitution into lipid bilayers and the study of the structural arrangement and motion of such proteins in the lipid matrix. It is equally rewarding to find that the authors of these different reviews have gone to considerable trouble to explain the basic principles of the methods that they describe and to point out the many potential pitfalls that exist for research workers whose familiarity with the techniques described is limited to more tractable experimental systems.

The one disappointing aspect of this book is one common to many review volumes of this type. It provides an excellent picture of the field at the time of writing but begins to date rapidly. The editors, as they point out in their introduction, are well aware that the study of membrane proteins is a field in which research is advancing at a great rate. It is, therefore, particularly annoying to find that many of the reviews contain no references later in date than 1983. Whilst it must be acknowledged that the volume originally appeared in 1986, it does seem that progress in publication has proceeded at a rather leisurely rate. Nevertheless, it is likely to serve as a valuable reference book for advanced students for a number of years to come and would be a useful addition to most libraries.

Patrick Williams