is generally large and well-spaced out (papers are photocopies of typescript) they are very easy to read or scan quickly to find relevant information. A summary of the proceedings by Nicholas Cozzarelli provides a very convenient starting point.

This is an impressive collection of recent research findings in these related fields of DNA replication and recombination and will provide an invaluable source of information for researchers and teachers alike, albeit at a cost of £90 per volume.

C.K. Pearson

Gene Amplification and Analysis

Vol.5, Restriction Endonucleases and Methylases

Edited by Jack G. Chirijian

Elsevier Biomedical Press; Amsterdam, New York, 1987

x + 303 pages. $65.00, Dfl.200.00

This is the second volume in this series to be devoted to restriction endonucleases. Other volumes include one on structural analysis of nucleic acids, one on oncogenes and one on gene expression. While it is clear that some of these topics do indeed conform to 'Gene Analysis', I am not as clear as to where the amplification comes in. The Editor argues that in the five years since the first volume, the field of restriction enzymes has moved on sufficiently to justify a second volume on this topic. While it is true that there is a large amount of new information, I am not sure that much of it will be used by those who simply use restriction enzymes for gene analysis. I suspect that what interests them most is the commercial availability of enzymes recognising new sequences. With this point in mind the first two chapters in this book by Roberts and by Blakesley are undoubtedly useful. Chapter 1 is a complete list of more than 600 different enzymes containing over 100 different recognition specificities. The chapter by Blakesley really does little more than to recategorise these but now classifying them by recognition sites rather than alphabetical order of the enzyme. In practice, of course, most readers will only be interested in those enzymes which are readily available and either of these two chapters would therefore benefit enormously from just some indication of which these enzymes are. The two chapters together occupy a third of the book and so the potential purchaser is effectively paying $20.00 for information which he or she can usually obtain free of charge from the companies who market these enzymes. You have to be very much an aficionado of the restriction endonuclease field to really want information about 500 enzymes which cannot be purchased.

Bearing in mind that there are indeed several hundred enzymes available but only a dozen chapters or so in each book in which to discuss them, it does seem odd that the enzyme *Eco*RI which occupied three chapters in volume 1 still merits a further two chapters in volume 5. While there is little doubt that this is far and away the best studied enzyme, I am still not clear that a potential gene analyser needs quite so much information about it. The same type of argument applies to chapter 5 which concerns *Bam*HI and spends two pages describing how to purify it. Since *Bam*HI is one of the cheapest enzymes available I would be very surprised if many people want to make large scale amounts of it themselves. Having said that, the crystallisation of *Eco*RI with a substrate oligonucleotide bound at its active site was a major breakthrough and it is a great pleasure to have a review from the laboratory which achiev-

ed this. A great deal of new information and a better interpretation of previous data has become possible since this structure was determined.

The other chapters contain a random list of enzymes, this time *Eco*RV, *Pst*I and *Pvu*II. No justification what-so-ever is given as to why these particular enzymes were chosen. The first time round the list contained *Pal*I, *Hha*II, *Pst*I again and *Bsp*R. In the first volume Wells discussed cleavage of single-stranded DNA by restriction endonucleases and this time round he again contributes a chapter but this time looking at enzymatic probes for left-handed Z DNA. Both these are extremely important and interesting areas and again it is good to have one of the major workers in the field reviewing them. Perhaps the most important new technique applying restriction enzymes for gene analysis to take place since volume 1 appeared is the use of very infrequent cutting enzymes (such as *Not*I) to generate very large restriction fragments which are then separated using pulsed field gel electrophoresis (PFGE). It is excellent that the book contains a chapter by McClelland on this, in which he also discusses the use of methylase sensitive enzymes to reduce the frequency of cutting (and hence increase the size of the fragment).

As can be seen, the book is very much a curate's egg: some parts of it are extremely interesting and useful; some are useful but the information could be obtained much cheaper elsewhere. The book is in no sense comprehensive and many parts of it do not really live up to the title of the series. However, for those with an interest in one or other topic, relevant chapters are certainly worth reading.

Alan D.B. Malcolm

Molecular Biology in Basic and Clinical Neuroscience Research

Edited by J. de Vellis, J. Lauder, J. Mallet, A. Privat and J.R. Perez-Polo

Alan R. Liss; New York, 1986

332 pages. £56.00

Molecular biology of the nervous system has become an area of increasing interest not only to neuroscientists but also to clinicians and to molecular and developmental biologists investigating specific regulation of gene expression. Significant progress both in resolving basic problems in neurobiology and in probing the molecular bases of inherited neurological disorders such as Huntingdon's chorea has already been achieved using molecular biological techniques.

'Molecular Biology in Basic and Clinical Neuroscience' is a compilation of research papers, which offers some perspective of current research topics being undertaken and brings together in one volume summaries of diverse lines of investigation.

The book is somewhat arbitrarily divided into four sections. The first and largest section on neurotransmitters and neuromodulators, includes chapters on localization of peptide hormones, on neurotransmitter receptors and enzymes, and is followed by a related section on neuronal function and development. This covers topical subjects such as proto-oncogene expression (c-src) in neurones, as well as neurone-specific enolase and cloning of rare transcript sequences. Several papers on myelin basic protein and studies on astrocytes in culture are included in the third section, glial function and development. The final section addresses some clinical applications.

Perhaps inevitably, the topics covered are rather selective; some subjects e.g. the molecular biology of the myelin proteins and certain strategies such as the use of in situ hybridization are a little over-represented whilst other current areas of interest, such as inter-cellular interactions, are not covered. Although not an all-encompassing up to the minute review of molecular neurobiology, there is nevertheless much in this book to interest workers in this field and it is a useful book of its type. The contributions describe developments ranging from