

role. In the 5 articles in the present volume, these functions range from the immune system (IgE receptors, reviewed by H. Metzger) through hormone action (M. Sonenberg and A. S. Schneider) to acetylcholine receptors (M. E. Eldefrawi and A. T. Eldefrawi) and virus receptors (A. Meager). A less obvious choice, but well treated (by T. P. Stossel) is endocytosis. The question of whether there are, indeed, in the latter process, surface receptors in any clear sense is discussed, but rather briefly, and one would have liked more on this central issue. The chapter on virus receptors covers a large and complex subject-matter succinctly, and with excellent clarity. Acetylcholine receptors form a narrower field, which has advanced to a greater extent at the molecular level than any other thus far in the receptor domain, in that the nicotinic acetylcholine receptors from both fish electric

organ and mammalian muscle have been isolated as pure proteins and characterised. A clear, general account is given of this topic, although some of the details given have been overtaken by other work in a rapidly-moving field. The review covers muscarinic acetylcholine receptors as well as nicotinic, but has, in fact, only a little information on the former, although a considerable amount of knowledge has become available in recent years on the muscarinic receptors and they deserve more attention.

The chapter on hormone receptors conveys a great deal of interesting and useful information and discussion on mechanisms of hormone-membrane interaction. In all, this volume is an excellent and stimulating addition to the series.

E. A. Barnard

### *Lipoprotein Metabolism and Endocrine Regulation*

#### Developments in Endocrinology: Volume 4

Edited by L. W. Hessel and H. M. J. Krans

Elsevier/North-Holland Biomedical Press; Amsterdam, New York, 1979

xiv + 324 pages. \$44.00, Dfl 99.00

This volume details the proceedings of a European workshop held in Noordwijkerhout in October, 1978, which was convened to examine the mechanisms involved in regulation of blood lipoprotein concentration and the possible implications for disorders such as arteriosclerosis which may arise from failure of such regulation. In the event the scope of the workshop was somewhat wider since there are a number of articles concerned with control of NEFA production and metabolism, a topic which is clearly closely related to that of lipoprotein metabolism.

Despite their importance it is very apparent from this volume that serious attempts to understand regulation of the metabolism of lipoproteins are unlikely to meet with success at present since the way in which the various species are related to each other is not yet clearly defined. As is made clear in the

initial review articles by Assmann and Schmitz and by Magill and Levis this situation applies particularly to the various forms of HDL, to the metabolic fate of this particle, and also to the events subsequent to the action of lipoprotein lipase on the triglyceride-rich lipoproteins (chylomicrons and VLDL). Thus in the first section of the book which is devoted to consideration of lipoprotein transport and hormone levels most of the articles are descriptive rather than analytical and in some cases it is none too apparent whether the studies reported were in fact well-conceived. For example, given that HDL is a heterogeneous population it seems very unlikely that meaningful data can be obtained by measurement of total HDL levels in different hormonal states particularly when such states are likely to influence many of the factors which contribute to the blood HDL populations. One is

reminded in this of the similar situation in respect to measurements of total blood cholesterol before the results of the Framingham study indicated the opposing contributions of HDL and of LDL + VLDL to this measurement. Thus while studies on the variation of HDL levels in various states are now trendy one wonders whether the effort might be better placed in trying to analyse the HDL population itself and to determine the relationships of the composite forms. It seems quite likely that when such information is available it may be necessary to repeat the studies currently being performed in the light of the more complete understanding of HDL itself. However for the non-specialist it is important that many of the contributions in this section are in the nature of reviews and do therefore provide an indication of the 'state of the art'.

In the second and third sections which are devoted, respectively, to consideration of hormone receptors and responsiveness and of pathways of metabolism the articles are generally more specific and therefore

of less interest to a general audience. However, there are exceptions, notably the articles by Michell on the relationship between hormone-stimulated phosphatidylinositol breakdown and calcium mobilisation, and by Mannaerts and Debeer on regulation of hepatic fatty acid oxidation and esterification.

My main reservation about this volume is however its parochial nature. It may be very useful to have a European workshop for discussion purposes but not at all such a good idea to publish the proceedings when the expertise available in this particular corner of the world is by no means representative of the overall picture. Given the current relative costs of transatlantic and inter-European air travel it does not even seem possible to justify the restriction on this basis, and one can only conclude that a rather arbitrary decision was taken. Potential purchasers should therefore realise that the published proceedings, while of some interest, do not in any sense provide an overall view of this important area.

M. C. Scrutton

### *Physiochemical Aspects of Protein Denaturation*

by S. Lapange

Wiley-Interscience; New York, 1978

x + 331 pages. £19.50

The nature of protein conformational changes is epitomised by those extreme changes taking place during the process of protein denaturation, and the present book provides a broad and thoughtful coverage of the methodologies for studying these changes and the thermodynamic and kinetic parameters which describe them. Whilst this book is to be recommended to the senior undergraduate and postgraduate, the reviewer can not accept the publisher's claim that 'accounts of experimental methods are self-contained and no consultation of specialised monographs is required'. Notwithstanding, the author may justifiably be congratulated in presenting a critical, comprehensive and much-needed review of the present status of

the subject, covering the literature to early 1977.

In such a broad and dynamic subject as this, it is difficult to avoid stamping a text with a personal touch; that the author has succeeded to a large extent in avoiding this pitfall is an indication of the quality of the treatment, as is the very objective analysis of areas of current controversy.

At £19.50, the individual purchaser will be encouraged to obtain a copy only if the book is of direct relevance to his own work. However, every biochemical library worth the name should stock this volume as an important reference work.

Douglas B. Kell