edge from them. It will, however, be read with considerable profit by the scientist working in other fields and by the intelligent layman. Drs Kretchmer and Van Robertson have done a very good job in providing both a general and specific introduction to various parts of the book, and in selecting such good articles for this purpose.

A. Neuberger

Trace Elements and Iron in Human Metabolism

by A. S. Prasad
John Wiley and Sons; Brisbane, Chichester, New York, Toronto, 1978
xv + 392 pages. £17.50

In this book which is published as a part of the Topics in Hematology series Dr Prasad has compiled a vast amount of information on the biological roles and nutritional requirements for trace elements in humans as well as the clinical conditions associated with inadequate and excessive intake of these elements, and with disorders in their handling in the body. In addition chapters are included on the effects of three metal ions (Cd, Pb, Hg) with known high toxicity for humans and in all of which there is much current interest.

The author seems to have seen his role as a gatherer and compiler of information and I can find little evidence of critical evaluation or of creative thought. However this is not an area in which there is any conceptual linkage between the constituent chapters other than that most of the elements considered must be provided in small amounts in the diet for maintenance of health. In some cases even that is not well established for humans since for some of the more recently discovered trace elements the requirement can only be shown in experimental animals under very carefully controlled conditions. The book then covers ground very similar to that treated by Underwood in his text of similar title. The book considered here is somewhat more up-to-date and shows differences of emphasis – for example the extended and rather interesting treatment of the clinical aspects of zinc deficiency. However except for those most vitally and directly interested in this field it would be hard to justify purchase of both texts.

M. C. Scrutton

Receptors and Recognition, series A, volume 4

Edited by P. Cuatrecasas and M. F. Greaves
Chapman and Hall; London, 1977
270 pages. £11.50 (hardback); £7.50 (softback)

This series comprises review articles over a very broad range of topics related to cell membrane receptors. The editors are to be congratulated on expediting discussion and understanding in this area of fundamental significance to a great many fields of modern biology. By proceeding through these volumes, one is reminded of the diverse and far-ranging functions in which receptors and cellular recognition play a major

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 artherosclerosis 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