tion of muscle growth, and control of muscle protein isoforms, to recombinant DNA approaches to investigate muscle gene expression. A lot of the data presented have been published elsewhere and this is often a recipe for a poor quality book. However, this is definitely not the case for this book for two reasons. Firstly, most of the authors have attempted to slant their presentation where possible towards clinical problems and, secondly, the text is interspersed with questions raised by participants during the presentation of the various papers and answers by the authors. Plenum Press have shown a considerable amount of skill in blending the text with discussion, and the overall effect is to produce a tremendously interesting, exciting, and lively book. The standard of questions was high and very penetrating. This is particularly so in the chapter by Blau, where she presents a new theory concerning defective myoblast development in dystrophy. Perhaps the weakest part of the book is the section on molecular genetic approaches. Here, there is only one paper on Duchenne dystrophy by Kunkel and the chapter is very superficial and out of date in a rapidly moving field. More emphasis on this area, rather than contractile protein gene families which get four chapters, would have led to a more balanced and interesting section. Overall, the book is highly recommended and required reading for basic scientists wishing to know more of muscle disease, and for neurologists and neurogeneticists curious about the working of muscle cells.

FRANK S WALSH

Advances in Human Genetics

Volume 14. Edited by H Harris and K Hirschhorn. (Pp 399; figures + tables. \$49.50.) New York: Plenum Press. 1984.

This collection of reviews consists of five topics, each written by an outstanding authority in the particular field. This particular selection of authors, together with the generous space available for each chapter (around 50 pages), gives a quality and consistency rarely seen in review series. The selection of topics enhances the overall interest of the volume, four of the five chapters being on topics which have seen marked, even spectacular, advances in the past few years.

Three of the chapters deal with important human enzymes or protein groups and their genetic disorders. These are glucose-6-phosphate dehydrogenase by Luzzatto and Battistuzzi, steroid sulphatase deficiency by Schapiro, and genetic mutations affecting human lipoprotein metabolism

by Zannis and Breslow. All three are outstanding, giving someone only partially familiar with the subject not only a comprehensive account of what is known, but also an appreciation of how these specific mutations can bear on general principles, such as X inactivation, XY homology, and receptor function. They cover not simply genetics, but deal also with much basic biochemistry, comparative studies in different species, and clinical aspects. All three chapters are up to date considering the rapid evolution of the topics; this reflects the active involvement of the authors in new developments. Nevertheless, one suspects that there has been a considerable publication delay as most recent references (after 1983) only appear in brief addenda and are not fully integrated into the main text. This is especially relevant for molecular genetic developments.

The remaining two chapters, mutation in human populations by Crow and Denniston, and cytogenetics of pregnancy wastage by the Boués and the late Alfred Gropp, are very different from the other three, but no less interesting. Crow and Denniston give a clear and authoritative account of a difficult topic, while the detailed information on chromosomally abnormal early pregnancies is of great practical value, particularly as first trimester prenatal diagnosis gathers momentum.

There can be few workers in Medical Genetics, whether laboratory scientists or clinicians, who will not find the whole of this volume valuable and enjoyable. The editors deserve credit for their choice of authors; they and the publishers should attempt to ensure that publication delay for this series is minimal so that an excellent volume can have maximum impact and use.

PETER S HARPER

Branched Chain Amino and Keto Acids in Health and Disease

Edited by S A Adibi, W Fekl, U Langenbeck, and P Schauder. (Pp 572; figures+tables. \$89.25.) Basel: Karger. 1984.

This book comprises papers resulting from the International Symposium on Branched Chain Amino and Keto Acids in Health and Disease held in Göttingen in 1983. Despite the date of the meeting, the resultant publication has been reviewed during production and many of the chapters include references to 1983 and 1984, making this a useful, current, and fairly comprehensive review of the subject.

This book comprises three main sections con-

cerned with the biochemistry (six papers) and the physiology and pathophysiology (10 papers) of branched chain amino acids and keto acids, and with the diseases in which either their metabolism is affected by genetic causes (three papers) or in which their use in therapy is advocated, the latter including protein wasting diseases (two papers), kidney diseases (five papers), and liver diseases (eight papers). Some of the papers present excellent reviews of current knowledge in the field while others are more superficial and weak. Particularly good are biochemical chapters on α -keto isovalerate metabolism in liver and its interactions with other metabolic pathways, and chapters on the role of branched chain amino acids in the regulation of glucagon and insulin release and of brain neurotransmitters that complement chapters on disease states. The latter concentrate on areas of medicine in which branched chain amino acids and keto acids are used in treatment, particularly in chronic uraemia and in hepatic cirrhosis and hepatic and portal-systemic encephalopathy. There are only three papers on genetic disorders, concerned with isovaleric aciduria and with 'MSUD' (branched chain keto aciduria), and in the general context of the book and symposium I found these rather out of place and reiterating information that is readily available elsewhere.

The book is well produced with clear figures and tables. Most chapters contain a useful summary, although the format used is inconsistent through the book and even two systems have been used for references. The book will be of most value to biochemists and physiologists interested in branched chain amino acid and keto acid metabolism and functions and to clinicians interested in their application to therapeutic medicine. There is little to recommend the book to medical geneticists who are without a specific interest in these areas, and with the relatively high price I would expect this book to find a place primarily in libraries of institutions involved in research and medicine in these areas.

R A CHALMERS

Evolutionary Biology

Volume 18. Edited by Max K Hecht, Bruce Wallace, and Ghilleen T Prance. (Pp 267; figures + tables. \$37.50.) New York: Plenum Press. 1984.

Evolutionary Biology has appeared for 18 years as a series of reviews, commentaries, and original research reports, all based on the conviction that evolution is a unifying principle in biology. It is edited in the USA by a distinguished team of three

and a total of only five editors has been involved from the series' outset. They have produced a journal with a consistent standard which has rightly been highly acclaimed. It contains long articles, often too long for standard journals, on a breadth of topics which reflect the underlying evolutionary theme. Papers on evolutionary aspects of anthropology, biochemistry, developmental biology, molecular biology, and physiology have all appeared, as well as those in more obviously evolutionary disciplines, such as genetics, palaeontology, and ecology.

Volume 18 exemplifies the broad content of the series. It contains six articles on: species selection by A Hoffman; homology in the bird wing skeleton by J R Hinchcliffe and M K Hecht; interspecific hybridisation in *Drosophila* by I R Bock; a demographic theory on the evolution of mating systems by B G Murray; ecomorphological convergence among Mediterranean bird communities by J Blondel *et al*; and arboreality in metatherian and eutherian mammals by F Szalay.

The articles on species selection and the evolution of mating systems are important theoretical contributions in areas of considerable topical debate and dispute. Bock's comprehensive review of the 1500 or so species of *Drosophila* indicates that the ability to cross, and produce offspring, with a closely related species is more the rule than the exception, but is mainly a laboratory phenomenon since hybrids in nature are very rare. The three remaining report/reviews are concerned with specialised aspects of homology or convergence. All six articles maintain the previous high standards of the series. They are authoritative, well organised, and well written. Each is a significant contribution in its own field.

Evolutionary Biology is clearly not aimed at the layman with a general interest in evolution; rather it will interest professional biologists, particularly those active in evolutionary studies. As a series it should be on the shelves of all libraries catering for the biological sciences. As this reviewer knows from recent experience, scanning the contents of previous volumes can be extremely profitable in both the contexts of teaching and research. I look forward to volume 19.

D R LEES

Annual Review of Immunology

Volume 3. Edited by W Paul, C G Fathman, and H Metzger. (Pp 584; figures + tables. \$27.00.) USA: Annual Reviews Inc. 1985.

This is a relatively new series with a format similar to its respected stablemate *Annual Review of*