to Stephen Hawking's *A brief history of time*, which is also a best seller and which attempts to do for cosmology what Dawkins does for natural selection. For anyone with an interest in theoretical biology written in an interesting and seductive manner this is a must.

ALAN EMERY

Biochemical Genetics: A Laboratory Manual. Emmanuel Shapira, Miriam G Blitzer, James Miller, Diane K Africk. (Pp 145; £19.50.) New York, Oxford: Oxford University Press. 1989.

This book makes no pretence of being anything more than a bench book on biochemical genetics, as illustrated by its contents and general quality of presentation. Part I deals with enzyme assays, describing general procedures and buffers, and methods for specific enzymes using fluorimetric, spectrophotometric, and radioisotope techniques. It should be noted that all but two of the methods are for lysosomal enzymes, indicating a distinct bias in the contents of this section, which presumably reflects the specialised interests of the authors.

Part II is on diagnostic tests for metabolic disorders, specimen collection, and handling. There are sections on urine spot tests, thin layer chromatography of a number of types of metabolite, quantitative amino acid analysis, organic acid analysis by gas chromatography, and free and esterified carnitine assays. An appendix tabulates the clinical presentation of a range of disorders, including those of lysosomal storage, the urea cycle, and amino acid and organic acid metabolism.

There are obvious reservations about a book of this nature. One is that it is a simple recipe book of methods in use in the authors' laboratory and there is no critical appraisal of the techniques. Moreover, some of these methods, that for quantitative amino acids for example, are only valid for one particular type of analyser, and the information is of very limited value for a laboratory with alternative instrumentation. A second is that it might encourage a belief that methods like chromatography of amino acids and organic acids, and interpretation of the results, are straightforward matters which are learned easily. Recent

experience of quality control of urine amino acids in the UK has shown that this, and similar procedures, should not be undertaken lightly.

In conclusion, it is difficult to imagine that this book will have a wide appeal. Most established workers in this field would want to search widely before introducing a new technique. In general, it is accepted that biochemical genetics is best concentrated in centres where expertise already exists and newcomers, who might be attracted by this book, should be relatively few in number.

JOHN HOLTON

Human Gene Mapping 10. 10th International Workshop on Human Gene Mapping. (Pp 1147; £122.10.) Basel: Karger. 1989.

The First International Human Gene Mapping Workshop (HGM1) was held at Yale University in 1973 and the proceedings appeared in a slim monograph listing 31 confirmed autosomal assignments and offering a tentative map of 13 loci on the X chromosome. Sixteen years and a revolution in molecular biology later, the Tenth Workshop returned to Yale and has generated a tome to dwarf any telephone directory containing information on some 5000 mapped genes and DNA markers. This is essential reference material for the increasing numbers of scientists working on the human genome, as well as for those providing a service for patients with genetic disorders.

The information is presented in various ways to make it accessible to the reader. Committees assigned to individual chromosomes have produced reports summarising the data and highlighting additions and changes. The committee on clinical disorders and chromosome deletion syndromes has collated the information in a format which clinicians will find useful. Almost a third of the publication is taken up with the catalogues of 3400 DNA segments and 945 cloned genes. Abstracts of workshop presentations constitute another large section. One bar to communication and source of irritation is the exclusive use of D numbers throughout the text, necessitating repeated reference to the index of DNA segments. Since most

researchers use probe names in their everyday work, it would be helpful if these could also be given, perhaps in brackets.

Past workshops have managed to keep abreast of the increasing amounts of data on DNA markers and physical mapping, but presentation of data on genetic distances has been haphazard and incomplete. For a DNA marker of interest, one could readily find details of the probe, vector, and polymorphism, probably some indication of the cytogenetic localisation, and perhaps some ordering information, but seldom details of the genetic distance from nearby markers or disease loci. To meet this need, HGM10 includes summary scores from Bronya Keats's database of pairwise lod scores taken from published reports and workshop submissions. These scores, together with information on order derived from multipoint linkage maps and physical mapping data, have been used to construct genetic maps for each chromosome. This commitment to the compilation of linkage data is most welcome and would be all the more useful if the source of the primary data could also be listed.

HGM10 was made possible by an on-line database which allowed entry and modification of data by the 26 workshop committees and facilitated publication of the final report in only three months, a remarkable achievement. More sophisticated computerisation will be needed as the volume of information increases and there may well be changes in the way the data are contributed and validated by the scientific community. Certainly the format by which the compiled data are made available will have to change as the remaining 97% of the genome is mapped, otherwise we shall all need to reinforce our book shelves.

JOHN R W YATES

Genetic Variants and Strains of the Laboratory Mouse. 2nd ed. Ed Mary F Lyon, Anthony G Searle. (Pp 876; £90.00.) Oxford: Oxford University Press. 1989.

A brief period in the late sixties, studying as an undergraduate in Hans Gruneberg's department, taught me that mouse geneticists are different

from the rest of us. Any group of persons who sit around the common room reading the *Mouse News Letter* and talking about mutants such as tubby and staggerer inevitably must display a superficial quaintness to the uninitiated. However it didn't take me long to realise that these people were serious.

One can't help comparing the communication and collaboration between mouse geneticists with the efforts of the human variety, to the detriment of the latter. First, the rules and guidelines for gene nomenclature for mouse mutants are logical and encourage mnemonic names (although I doubt whether one could get away with telling a human patient that he was a kinky-waltzer). The mouse nomenclature committee actually recognises upper and lower case letters for gene symbols, unlike its human counterpart which seems to be stuck in the era of punched computer cards. Second, the *Mouse News Letter* is a unique forum for publishing up to date information about mutant genes, linkage maps, and chromosome variants under one cover. Third, the documentation and availability of mutant stocks is much better organised and is run on an altruistic basis.

Genetic variants and strains of the laboratory mouse, the second edition of which is edited by Mary Lyon and Tony Searle, may be seen as an expanded compendium of the information available in *Mouse News Letter*. There is a clear and logical opening chapter by Mary Lyon on the rules and guidelines for gene nomenclature and this is followed by a 400 page catalogue of the 1500 known mutant genes and polymorphic loci, written by Margaret C Green. This section includes a brief description and a comprehensive reference list for each mutant. As the editors say in their preface, this is the

most important section of the book. Some of the other catalogues appear regularly in the *Mouse News Letter* and would be expected to become out of date rapidly. These sections include the linkage map, data on linkage and syntenic homologies, and the lists of retroviral and cancer related genes, DNA polymorphisms, and chromosome variants. On the other hand it is useful to have information about standard nomenclature and appearances of normal chromosomes, and details of inbred strains, under one cover.

This volume will be essential for mouse geneticists and de rigueur for human geneticists with any pretensions to taking a scientific approach to the unravelling of human disease and complex genetic mechanisms. It will be heavily used by its owners, and it is a pity that the paper used to print it seems to have been produced from recycled telephone directories; however, this in no way detracts from the quality of the contents.

ROBIN WINTER

Medical Genetics—An Illustrated Outline. Andrew Read. (Pp 136; \$14.95.) Philadelphia: J B Lippincott. 1989.

This is a pocket sized book which contains a great deal of detailed and accurate information on the theoretical background to medical genetics. It is set out in an unusual way. Each of the eight chapters contains a glossary of words or short phrases relevant to the chapter heading. Each entry is concisely, accurately, and clearly written. Illustrations are present on every page, sometimes several to a page; they are in

various shades of blue and are simple, clear, and informative. The chapter headings are: The human genome as DNA; The human genome as chromosomes; Genes, markers and the human genetic map; Chromosome abnormalities; Pedigree patterns in mendelian inheritance; Biochemical genetics; Non-mendelian conditions; Genes in populations.

The book can be used in two ways; firstly as a dictionary, by using the index (which is at the front of the book) and secondly as a revision guide by reading the contents of each chapter in the order written. The entries are not in alphabetical order but in the order which allows the reader, step by step, to build up a knowledge of the topic covered by the chapter.

It is a book which will prove useful to students learning the subject for the first time and to those already working in the field who want to revise aspects of the theoretical background to the subject.

This book can be recommended for being clear and concise, easy to use, packed with information, and also inexpensive.

D C SIGGERS

Correction

In the January 1990 issue of the Journal, in the Letter to the Editor on 'Oculo-cerebrocutaneous syndrome', we regret that the authors were listed in the wrong order. The order should have read: Raoul C M Hennekam, Frits A Beemer, Liesbeth M Bleeker-Wagemakers, Ben C J Hamel, Hanna W E Oorthuys.