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BOOK REVIEWS

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Advances in Human Genetics. Volume 21. Ed H Harris, K Hirschhorn. (Pp 465; $89.50.) New York: Plenum Press. 1993.

Each year since 1970 a new volume of *Advances in Human Genetics* has appeared, edited every year by Harry Harris and Kurt Hirschhorn and every year containing five reviews. It must be difficult picking topics which are interesting but not too fast moving for the inevitable slow book production process. Four of the five articles in this volume have suffered to some degree from important advances coming too late to include. Moser's chapter on peroxisomal disorders missed the identification of the gene for X linked adrenoleucodystrophy. Jennifer Puck (X linked immunodeficiencies) writes that none of the genes, apart from that for chronic granulomatous disease, has been cloned. Goddard and Solomon (Genetic aspects of cancer) discuss oncogenes and tumour suppressor genes but not microsatellite instability. Zannis, Kardassis, and Zanni discuss mutations affecting lipoproteins, but only in connection with heart disease. The fifth chapter is by Grabowski on Gaucher disease. Each author, we are told, was given the opportunity at page proof time to write a short addendum containing the most up to date material, but only Moser took up the offer. The editorial hand was certainly not heavy. Chapters range from under 40 to almost 200 pages, and the style of references varies. Comparing Goddard and Solomon's crisp 50 page summary of Genetic aspects of cancer with Moser's 100 page review of peroxisomal disorders, both read well, but surely they are not aimed at the same audience? One audience wants an outline, the other wants details.

These books of major reviews, two to three years in gestation, are curious beasts. It's heartwarming that people of unquestionable authority are willing to put in so much time and effort for no material reward. The world must be the better for their efforts. But I wonder just how much better it is? How many people on the one hand are ready to spend a day or two digesting the detail but, on the other hand, aren't part of the personal networks by which people active in the field keep themselves informed? I'm reluctant to recommend them to students writing dissertations because most of the benefit to the student is in locating and digesting primary publications. They are good for orienting new postgraduates, with supplemental reading to bring them up to date. They would be good for summarising a field which has reached a milestone: next year would be just right for a major review of Huntington's disease (but this series had one in 1991). Do working scientists read them? Personally I find them too long and too detailed. The much shorter articles in *Annual Reviews of Genetics* are about my limit for general interest topics. *Trends in Genetics*, *Nature* News and Views commentaries, and *Cell* minireviews are my main sources for filling in necessary background.

Should you buy *Advances in Human Genetics*? Yes, if it contains a review you particularly want. No, if you just want to keep an adequate reference bookshelf. Looking through the contents of past volumes, if you had them all on your shelf you would not have a summary of the milestone developments in human genetics over the period. For example you would have nothing on physical mapping, on mitochondrial diseases, on microdeletions, on imprinting, on trinucleotide repeats, or, until this year, on retinoblastoma or oncogenes. *Annual Reviews of Genetics* does a better job of covering a wide field at a consistent level. But if you happen to want an encyclopaedic review of lipoproteins – and now that they are involved in Alzheimer's disease as well as heart disease, who doesn't? – then this volume is just the ticket.

ANDREW P READ

Human Gene Mutation. D N Cooper, M Krawczak. (Pp xiv+402; £49.50.) Oxford: Bios Press. 1993.

Mutation remains both the major intellectual problem in its decipherment and interpretation: it presents the major practical problem of the detection of mutagens and the protection of our future.

When it was assumed that loci were few and alleles few or absent, and that mutation rates were equal at all loci and from all alleles, and equal in man, mouse, and fly, the basis for the birth and death rates of mutations, and their life expectancy, were defined by Haldane, Fisher, Wright, and Muller. These firm theoretical foundations are now known to have a somewhat tenuous relation to reality. The theological concept of the ideal type, the homozygous ideal, based on God's image, continued to permeate concept formation. When variation occurred it was assumed that selection, rather than chance, dominated survival, and Fisher's term linkage equilibrium (now often termed linkage disequilibrium) and E B Ford's term polymorphism were defined in 1930 and 1940 to cover allelic association and common allelic variation respectively.

The realities of blood transfusion and the display of extreme variation by the starch gel showed that reality was other. The concept of neutrality, which abolished both the problem and the possibility of having evolved to discuss it, introduced a fertile mathematical diversion and showed that neutral variants only had to be sufficiently numerous for some to survive, prosper, and even expel their parental alleles.

Now at last there is a book based on raw data, discussed on a sound foundation of words, and aided but not dominated by sufficient and necessary mathematics. Not only are all varieties of mutation discussed, largely around the authors' expertise in blood and how it clots, but extensive appendices provide an anthology of all that is known to ail our species and has been defined at the genomic level. Reading it imposes a pleasant if formidable task on the reviewer. Not only does it excel in clarity but many references, and their discussion, are remarkably recent.

In the treacherous fields of terminology and the word-number interface there are some minor problems worth comment. The diagrams, apparently based on astute use of a spreadsheet package, are very clear, numerous, and well integrated with the text. However, the unnecessary imposition of a third dimension in some does not assist clarity. The computer's expression of chi squared to three places of decimals needs taming. Tuberous sclerosis is now largely split between loci on chromosomes 9 and 16: 11 and 12 have little support, a very recent finding. Harry Harris's operational use of "polymorphism", to cover frequencies exceeding 1%, a reasonable use in the late sixties, is credited to Vogel and Motulsky 20 years later. Ford defined it unambiguously as "the occurrence together in the same locality of two or more discontinuous forms of a species in such proportions that even the rarest of them cannot be maintained merely by mutation". It is now used – or since the word is longer than the neutral term "variant" – misused – so extensively that Ford's useful term, which dominated evolutionary theory for several decades, has died with him, and it is now too late to modify its well established misuse.

Linkage analysis, another casualty of widespread misunderstanding, features as a chapter, and benefits from Clayton's advice. However, the pedigree shown does not need lods as phase is defined and deduction and counting, the appropriate method when phase is clear, are omitted. A few paragraphs on

Notice to contributors (general guidance)

The readership of *Journal of Medical Genetics* is world wide and covers a broad range of workers, including clinical geneticists, scientists in the different fields of medical genetics, clinicians in other specialities, and basic research workers in a variety of disciplines. It publishes original research on all areas of medical genetics, along with reviews, annotations, and editorials on important and topical subjects. It also acts as a forum for discussion, debate, and information exchange through its Letters to the Editor columns, conference reports, and notices. The editor is always grateful for suggestions or criticisms from readers and authors.

ORIGINAL PAPERS

These may be on any aspect of medical and human genetics and may involve clinical or laboratory based and theoretical genetic studies. If requested, authors shall produce the data upon which the manuscript is based for examination by the Editor. Guidance on length can be obtained from studying the Journal. Case and family reports may be submitted as *Brief papers*. *Short reports* should in general not exceed 500 words, with one or two illustrations, and the text should be continuous with no headings. An abstract should be provided for all papers. Contributions may also be submitted as *Hypotheses* or *Technical notes*. Accelerated publication of papers of particular importance will be considered.

REVIEWS

Short or longer reviews on all aspects of medical genetics are welcome, but should be discussed first with the Reviews Editor. Contributions on historical topics, or which could form part of specific series, are particularly acceptable.

ANNOTATIONS AND EDITORIALS

These are written or commissioned by the editors, but suggestions are welcome regarding possible topics and authors.

LETTERS

These are welcome on any relevant topic and will be published rapidly. Those relating to or responding to previously published items in the Journal will be shown to those authors, where appropriate. Although a paper submitted as an original report may sometimes be published in shortened form as a letter, it is preferable for initial submissions to be as a short report, unless directly related to a previous journal article.

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Reports from small to medium sized meetings, especially international workshops on specific topics, will be appreciated. Authors intending to submit conference reports should liaise with the Reviews Editor to avoid duplication.

SPECIAL ISSUES AND SUPPLEMENTS

These are published at intervals on topics of particular relevance. Enquiries are welcome from those organising workshops or symposia who may have material suitable for such an issue.

BOOK REVIEWS

The Journal aims to review as wide a range of relevant books as possible. Authors or others wishing to check if a book has been received may check with the Journal office. Computer programs and databases, official reports, and other material relevant to the field may all be appropriate for review. Enquiries about such items are welcome.

OBITUARIES

The Journal would like to be informed rapidly of the death of any senior or important person in the field of medical or human genetics, regardless of geographical location. In general, a brief notice would be published rapidly, with a longer obituary as appropriate. Since such deaths often occur many years after retirement, it will be appreciated if readers will contact the Reviews Editor so that appropriate arrangements can be made.

NOTICES

Notice of forthcoming meetings in different countries should be sent as far ahead as possible. Extensive descriptions should be placed as advertisements.

'CALLS FOR PATIENTS'

The Journal receives an increasing number of requests to publish notices of proposed studies involving patients or families with rare genetic disorders. In general such notices are appropriate only for major international collaborations; the proposer should ensure that such a notice does not conflict with existing studies or proposals.

ILLUSTRATIONS

High quality black and white photographs are preferred for most illustrations, particularly of patients. Colour illustrations can be accepted; however, authors are asked to pay part of the cost, so their desirability should be discussed in advance of submission. All identifiable photographs of patients must be accompanied by written permission for use.

NOTES ON NOMENCLATURE

Authors should refer to the following publications.

(1) Chromosomes: *ISCN 1985. An international system for human cytogenetic nomenclature*. Basel: Karger, 1985.

(2) Genes: Shows TB, *et al*. In: Human Gene Mapping 5 and 7. *Cytogenet Cell Genet* 1979;**25**:96–116, 1984;**37**:340–3.

(3) Loci: Conventional nomenclature should be used, with lower case lettering as appropriate (for example, Race RR, Sanger R. *Blood groups in man*. 6th ed. Oxford, London: Blackwell, 1975; and Giblett ER. *Genetic markers in human blood*. Oxford, London: Blackwell, 1969).

(4) Blood coagulation: International Committee of Haemostasis and Thrombosis (Graham JB, *et al*). A genetic nomenclature for human blood coagulation. *Thromb Haemostas* 1973;**30**:2–11.

(5) Enzymes: *Enzyme nomenclature: recommendations of the nomenclature committee of the International Union of Biochemistry*. New York: Academic Press, 1984.

Specific instructions to authors

Papers, which should be in triplicate and in the Vancouver style (*BMJ* 1988;**296**:401–5), should be sent to the Editor, *Journal of Medical Genetics*, BMA House, Tavistock Square, London WC1H 9JR and not to individual editors, with the exception of papers from the USA, which can be submitted to the North American Editor, Dr P M Conneally, Department of Medical Genetics, James Whitcomb Riley Hospital for Children RR129, Indiana University Medical Center, Indianapolis, Indiana 46223, USA. Submission of a paper will be held to imply that it contains original work which has not been previously published. It is the responsibility of the submitting author to ensure that all co-authors are agreeable for their names to appear on the manuscript. A FAX number should be provided. Permission to republish must be obtained from the Editor.

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All contributions should be accompanied by an abstract (preferably structured) giving the main results and conclusions. Typescripts should be at least double spaced with wide margins. One page proof will be sent to the author submitting the paper and alterations on the proof, apart from printer's errors, are not permitted. Reprints may be ordered when the proof is returned.

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Up to four keywords should be provided for indexing purposes.

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