

very useful as a source of illustrations for lectures to students on normal embryology in relation to malformations.

Altogether a magnificent achievement, and a volume that will be widely used as in situ hybridisation with molecular probes for 'developmental genes' becomes a standard procedure. This is not a book for the clinical genetics department but I imagine it should be the bible for developmental biologists.

R M WINTER

**Neurofibromatosis: Phenotype, Natural History and Pathogenesis.** 2nd edition. V M Riccardi. (Pp 498; \$68.50.) Baltimore: Johns Hopkins University Press. 1992.

When the first edition of Dr Riccardi's monograph on neurofibromatosis was published in 1986, work on the molecular genetics of the neurofibromatoses was only just beginning. The NF1 gene has now been cloned and scientists are beginning to elucidate the pathogenetic mechanisms of the disease; the NF2 gene has been localised to such a small part of chromosome 22 that its cloning must be considered to be imminent. The last six years has also seen a continuing increase in the number of clinical papers about the different types of neurofibromatosis published each year. Much of the credit for stimulating this interest in the disease must go to Dr Riccardi, both through his extensive publications and personal encouragement to young investigators when they first enter the field.

With this recent rapid increase in knowledge an updated second edition of the monograph is timely. The revised layout of the book reflects the increased knowledge, in that in the 1986 edition there was just one chapter on pathogenesis, where there are now four separate chapters covering molecular biology, cell biology, clinical biology, and animal models. In the clinical sections of the book, recent publications have been widely reviewed and the appropriate sections updated or expanded. The bibliography at the end of the book is extensive.

My only criticism is that on some of the sections on clinical management, a thorough discussion of the pros and cons of various management options is not presented. One of the examples of this is whether patients with neurofibromatosis type 1 should have routine cranial imaging to detect asymptomatic optic gliomas. Dr Riccardi is in no doubt that this is indicated and comments "... it seems clear that until physicians who are immediately responsible for the health care of these children adopt a publicly stated, aggressive 'go get 'em' attitude, dozens if not hundreds of children with NF1 will unnecessarily lose at least a portion of their sight each year". Many other clinicians in the field would not agree that symptomatic optic gliomas are frequent enough to warrant routine cranial imaging in children with NF1.

At the time of the first edition in 1986, there were no other recent books about neurofibromatosis. In 1990, a multi-author handbook on neurofibromatosis was published for both patients with the disease and health care professionals (*Neurofibromatosis. A handbook for patients, families, and health care professionals*. Eds Rubenstein AE, Korf BR. New York: Thieme Medical Publishers,

1990). The two books complement one another as they are aimed at different audiences. If I had to choose, as a clinical geneticist, which to purchase at present, it would be the Riccardi monograph because of its more in depth coverage of research aspects and the extensive bibliography. However, for health professionals caring for NF families and their patients, the Rubenstein and Korf book is a good introductory text. For anyone embarking on scientific and clinical research of neurofibromatosis, the Riccardi book, particularly in view of its exhaustive bibliography, is a must.

SUSAN M HUSON

**Genetic Disorders and the Fetus. Diagnosis, Prevention and Treatment.** 3rd edition. Editor A Milunsky. (Pp 336; \$111.50.) Baltimore: Johns Hopkins University Press. 1992.

Six years have elapsed since the second edition of this standard textbook in the field of prenatal diagnosis was published. These years have seen a particularly rapid growth in the number of applications of prenatal molecular genetic diagnosis and in the development of maternal biochemical screening for fetal aneuploidies in the first and second trimesters of pregnancy. A new edition was thus essential and, reflecting the multidisciplinary nature of the subject, 48 distinguished contributors were recruited from a diversity of clinical and scientific disciplines.

The new edition succeeds in its goal of providing extensive critical discussion of the state of the art in prenatal diagnosis and the editor and publishers are to be congratulated on bringing a project of this scale so rapidly into print. My two main criticisms relate to imbalanced coverage of disorders and to areas of omission. I suspect the former is historical but the result is comprehensive coverage of chromosomal and biochemical disorders with relative neglect of other genetic disorders. Thus, for example, cystinosis has over one page which details the clinical, genetic, and biochemical features whereas Duchenne muscular dystrophy and Huntington's disease are covered much more briefly and the emphasis mainly relates to molecular diagnosis. Surprising omissions are the psychosocial sequelae of termination of pregnancy for fetal abnormality and the aspects of clinical management which can influence these sequelae; inherited serious skin disorders and the role of fetal skin biopsies; and no mention in the index of a variety of rarer disorders for which prenatal diagnosis is available. This last omission could be rectified by including an appendix of conditions for which prenatal diagnosis has been reported and so avoid the potential user error that lack of inclusion reflects lack of availability of a prenatal test.

The pace of progress in the field of prenatal diagnosis and screening is relentless with over 500 publications a year. This textbook has a track record for successful evolution to meet this challenge and this should ensure its continued inclusion in the libraries of those who are actively involved in prenatal diagnosis research and practice.

J M CONNOR

**Micromanipulation of Human Gametes and Embryos.** J Cohen, H E Malter, B Talansky, J Grifo. New York: Raven Press. 1992.

This book is a mixture of subject review and hands on guide. The first five chapters are excellent reviews within the field of micromanipulation in developmental biology and the later chapters are presented more in the mode of a techniques manual. There is some confusion in the organisation of these sections especially in the second half of the book. Despite this, both the review and techniques chapters in themselves are presented in clear and consistent fashion and with excellent use of illustrative diagrams and photographs throughout. The coverage of past work on the development of the ideas and procedures is comprehensive. This makes interesting reading and it is pleasing to see the original work acknowledged.

Chapter 1 gives an interesting historical perspective of micromanipulation over 150 years from hair loops (still used today) to the most sophisticated instrumentation now available. I would like to comment at this point that there might be a tendency today to rely too much on sophisticated (and expensive) equipment and thus to bypass our own inherent skills which are developed by working always with the minimum assistance from instrumentation and the lowest magnification possible. It is truly amazing the skills I have seen developed by persons who, with perseverance, practice, and acclimatisation to the microenvironment, regularly produce hand crafted pipettes with 5 micron apertures and who accomplish reliable single cell work using only a simple dissecting microscope. Conversely, I have visited laboratories where it takes hours or days to set up the micromanipulation apparatus to perform a task that could be done in minutes with a dissecting microscope. Micromanipulation then can be saved for the most delicate tasks which cannot be done by hand and chapters 2 and 3 cover its application to these tasks in the fields of developmental embryology and animal breeding. Chapter 4 describes gametogenesis and fertilisation and chapter 5 homes in on the different approaches to microsurgical fertilisation in mammals. Microsurgical fertilisation may be a treatment for some forms of infertility which have not been amenable or suitable for regular IVF procedures and this is the main research interest of the authors. The following chapters present the practical approaches to microsurgical fertilisation (chapter 6) and their evaluation (chapter 7), consequences of zona pellucida micromanipulation (chapter 8), and a comprehensive coverage of equipment, tools, and techniques (chapter 10). This covers nearly all of the micromanipulation procedures which are currently applied to human gametes and embryos except for oocyte and embryo biopsy, so important in the rapidly developing field of preimplantation diagnosis of genetic disease. Unfortunately, embryo biopsy is not adequately covered in the rather poorly written chapter 9 in which detailed procedures are given only for gel electrophoresis and fluorescent in situ hybridisation.

Other micromanipulation procedures, such as disaggregation and cloning, nuclear transplant, gene injection and transgenesis, aggregation and chimaerism and embryonic stem cell technology are not covered technically in this book. Such procedures are rightly limited to mouse models and animal

breeding. However, in a final chapter (chapter 11), these aspects of gamete and embryo manipulation are briefly considered in the frame of 'The future of micromanipulation and assisted reproduction' and this I consider to be a mistake. It seems unwise to give cursory coverage of such important issues without the proper sensitivity towards the dangers of the manipulation of human eggs and embryos and the social and ethical implications. For example, a page is given to transgenesis in the human and a paragraph to describe the approach to possible injection of genes into human egg nuclei without any consideration of the need or practicality of such genetic interference or the dangers inherent in this approach (inappropriate temporal and spatial expression, insertional mutation, disturbed patterns of inheritance, and the permanence of unforeseeable consequences). To present gene transfer in the human simply as a technical possibility I think is misleading. It is true that scientists are not trained in ethics (although I consider it is time for ethics to be a compulsory part of scientific training and vice versa). However, I do think that scientists when reporting their work must make every effort to be sensitive to its social and ethical implications and to cover these aspects adequately.

Overall, I enjoyed reading this book. It is very nicely produced by Raven Press. I do not think it is of great interest to a general audience but it is a must for the library of every IVF Laboratory and Assisted Conception Unit and for all those engaged in micromanipulation in development with an interest in human reproduction.

MARILYN MONK

**Genetic Diversity Among Jews: Diseases and Markers at the DNA Level.** Edited B Bonne-Tamir, A Adam. (Pp 460; £50.) Oxford: Oxford University Press. 1992. ISBN 0-19-506817-3.

For social, geographical, or religious reasons population isolates occur, and within these there can be an accumulation of deleterious genes. This has been well documented in the Finns, the Amish, and the Jews. The study of these populations has taught us much about demographic influences on gene frequencies as well as the symptomatology and molecular pathology of a number of rare diseases. This well edited and comprehensive volume

addresses such matters in regard to various Jewish populations.

Demographic changes in world Jewry are reviewed in a most fascinating opening chapter. From the time of Claudius in the 5th century, when it has been estimated there were between five and eight million Jews, the numbers have fluctuated considerably but with a progressive increase over the last 200 years. Moreover, the tendency for Jews to marry within a community (so called Benini's index) has been progressively falling in recent years. Furthermore, apart from Israel, there has also been an increasing tendency for Jews to marry non-Jews who do not convert to Judaism. The result of all these changes, if continued, will be to have a diluting effect on the gene pool. The present volume is therefore welcome before these changes might possibly have any significant effect.

The first part of the volume is concerned with polymorphisms (nuclear and mitochondrial DNA, HLA, G6PD). The next deals with mendelian disorders particularly prevalent among Ashkenazim (for example, various lipid storage disorders, dysautonomia, adrenal hyperplasia III) and non-Ashkenazim (for example, familial Mediterranean fever). The final part addresses multifactorial diseases which may be particularly common in certain Jewish communities, including coronary artery disease and idiopathic inflammatory bowel diseases.

This volume is dedicated to Richard Goodman MD (1932-1989) who was Professor of Human Genetics at Tel-Aviv University and who contributed so much in various ways to medical genetics, but particularly to the study of genetic disorders among Jews. Richard was a personal friend of mine for nearly 30 years and I know he would have been very proud to be associated with such a valuable work of scholarship.

ALAN EMERY

**Mendelian Inheritance in Man.** 10th edition, 2 volumes. Victor A McKusick. (\$94.00.) Baltimore: Johns Hopkins University Press. 1992.

For a book to go through 10 editions over a 26 year period with the same author must be a rare event. For it to be increasingly valuable with successive editions is even more unusual. *Mendelian Inheritance in Man* has

become such an essential part of both clinical practice and research in medical genetics that it must seem ungrateful, even disloyal, to criticise it, yet this tenth edition has shown up weaknesses that must be corrected if its future is to remain assured. These were already noted in reviewing the 9th edition, but are now even more prominent.

The edition is produced for the first time in two volumes (a total of around 2500 pages compared with rather under 2200 for the previous edition). The preliminary section contains, as before, much interesting and valuable material, including citation indices, a table of numbers of genes mapped, a list of molecular defects in mendelian disorders, and detailed tables of mapped genes by chromosome, along with the renowned chromosome maps of 'morbid anatomy' of the human genome. The detailed entries (autosomal recessive and X linked disorders now occupy volume 2) are remarkably up to date, and form a collection of notes and references on rare mendelian disorders that is quite unparalleled in its scope.

So what is my criticism? Quite simply it lies in what has *not* been removed in successive editions. The entries read increasingly as a series of geological strata, showing accretion but very little erosion. This has now reached the stage where it is difficult to find the statements and references that are either new, or old but standing the test of time, among a large mass of material that has become dated and, inevitably in some cases, incorrect. Checking a number of entries shows that very little has in fact been removed, and it is this, rather than true growth in knowledge, that accounts for most of the increase in bulk.

What can be done to remedy the situation? The answer is simple in principle, but will represent an onerous task for Dr McKusick - perhaps even more so for his two assistants. They need to go through the text ruthlessly with a red pencil (or its computer equivalent) and firmly delete all the material that is irrelevant - I would judge about half of the total. If this can be done it will make the book (and its on line version) much more valuable, especially for students who can easily be confused by older material which has since been shown to be wrong.

I suspect that a radical pruning may take two years' hard work, but I look forward then to seeing a slimmer and reinvigorated 11th edition - perhaps again in a single volume!

PETER S HARPER