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Human Cytogenetics: A Practical Approach. Ed D E Rooney, B H Czeulkowski. (Pp 274.) Oxford: IRL Press. 1992.

This is the second edition of this popular handbook. It contains major revisions and additions, the most obvious being the two volume format, which the editors have wisely chosen to accommodate the much expanded text: volume I is based primarily on the subject matter of the first edition, but also includes new chapters on non-isotopic in situ hybridisation and microscopy/image analysis, while volume II is essentially a new publication dedicated to the cytogenetics of malignancy and related topics such as the chromosome instability syndromes.

Volume I begins with a useful introduction to clinical cytogenetics, which deals briefly with nomenclature and chromosome abnormalities. This is followed by three chapters on tissue culture and staining techniques, which do not differ greatly from the first edition and are all technically excellent. However, the wisdom of recalling past exploits with blood infected by dangerous pathogens in this particular text is questionable, although the resourcefulness of early workers in obtaining serum for tissue culture must be admired. The next chapter deals with the clinical interpretation of chromosome abnormalities and is all the more useful for having a clinical as well as a scientific input. The treatment of the subject, on the whole, is admirable and is a distinct improvement on the comparable section in the first edition. One or two minor errors and omissions, such as the emphasis on the in situ method of harvesting for the interpretation of mosaic amniotic fluid results, which ignores the fact that most laboratories in the UK use the suspension method, only detracts slightly from the content in general. Chapter 6 deals with the emergent and rapidly advancing new development of in situ hybridisation. This is an impressive, very timely chapter, written by acknowledged experts in this field, and containing some elegant illustrations. The chapter on meiotic chromosomes, on the other hand, which had little scope for improvement, apart from the use of chromosome painting to differentiate bivalents, reinforces our view that this is a technique which is likely to remain primarily a research tool. The chapter on microscopy is informative, although the use of phase contrast could usefully have been included, perhaps instead of the more esoteric data on the properties of lenses. The section on automated image analysis and the chapter on flow cytometry round off the volume appropriately.

Volume II covers cytogenetics in malignancy and acquired abnormalities. As is to be expected, the bulk of the volume concentrates on the haematological malignancies. The first chapter introduces the techniques involved in the study of leukaemic chromosomes, and also places a very welcome emphasis on the many problems associated with both their culture and analysis. Chapters 2, 3, and 4 deal with the cytogenetics of myeloid leukaemia, acute lymphocytic leukaemia, and the lymphoid and chronic lymphoproliferative disorders respectively. They are all very thorough, up to date, and well illustrated with good photographs (in particular the acute lymphocytic leukaemia chromosomes). Chapter 5 gives an overview of the role of cytogenetic studies in haematology, and relates the findings to the overall clinical picture. Although containing repetition of material already competently covered in the preceding three chapters, it should prove informative to cytogeneticists with a limited knowledge of haematology. Chapter 6 deals with the growing field of solid tumour cytogenetics, and gives detailed protocols for their culture, as well as discussing the problems of interpretation of results. Chapters 7 and 8 cover cytogenetic testing for mutagenicity and the chromosomal instability syndromes, and both provide an excellent guide for any occasional user of the techniques. The final two chapters concentrate on the more specialised areas of somatic cell hybrids and the microdissection of human metaphase chromosomes. These seem somewhat out of context in relation to the rest of the volume. In general the content of this volume is of an excellent standard and it compares very favourably with existing texts.

This new edition has significantly improved what was already a very useful publication. The few deficiencies of the first edition have been addressed, and the new volume provides a new dimension to the book. The standardised approach to the presentation of protocols in both volumes is a successful innovation, and in more than doubling the size of the book, the editors have put together a quite comprehensive compendium of practically orientated information that will be invaluable as a reference handbook and for teaching. The editors have quite correctly contended that it will meet some of the training needs of new recruits, and we would have no hesitation in recommending the book to our cytogenetic trainees. However, more experienced workers in this field would, we suspect, only occasionally need to resort to it, since most established laboratories have their own preferred protocols. The overall organisation of the book is excellent, but a relatively minor criticism we have is with regard to the mix of chapters in volume II; in any future edition the editors might consider whether the final two chapters in this volume might be better placed in volume I.

SELWYN H ROBERTS
PETER W THOMPSON

Prenatal Diagnosis and Screening. Ed D J H Brock, C H Rodeck, M A Ferguson-Smith. (Pp 785; £95.00.) Edinburgh: Churchill Livingstone. 1992.

Some 20 years ago it became clear that the study of amniotic fluid and the cells contained in it provided a means of diagnosing certain genetic disorders in the fetus. This offered solace to couples at risk who previously had had no option but to have no further children themselves or face the prospect of having another affected child. Since those early days the field has developed considerably. The range of techniques has increased as have the number of disorders which can be diagnosed and, in this regard, the application of molecular technology has been particularly valuable. There are unpublished reports on the subject which are often only available to the specialist. There has therefore been a real need for a text which would review the entire field in such a way that it could provide an authoritative reference work. The editors of this current text are admirably qualified for the task, for each has played a singularly important role in the development of prenatal diagnosis: the prenatal diagnosis of neural tube defects (Brock), fetoscopy and fetal blood sampling (Rodeck), and screening for cytogenetic abnormalities particularly in older mothers (Ferguson-Smith). They have enlisted the collaboration of many internationally recognised experts who address all aspects of the subject, ranging from counselling, fetal sampling, and laboratory techniques to the diagnosis of specific congenital malformations, chromosome abnormalities, and a variety of mendelian disorders. An entire, and particularly interesting, section is devoted to future trends (preimplantation diagnosis, molecular cytogenetics, and fetal cells in maternal circulation). Finally, the psychological, societal, and legal aspects of prenatal diagnosis are given detailed consideration.

Not all contributors write with quite the same ease and clarity. Some are verbose, others perhaps too brief. Some feel obliged to quote even the minutiae whereas others are more eclectic. But such strictures are almost to be expected and inevitable in any edited volume on a subject which has become so broad that its review is now beyond the talent of any single author.

This volume will, of course, have competitors, most notably the new edition of Aubrey Milunsky's *Genetic Disorders of the Fetus*. Nevertheless, as a scholarly review of an important aspect of medical genetic practice this is likely to become a standard text. It is also beautifully produced and a pleasure to read and handle.

ALAN EMERY

Genetics and Neurology. 2nd edition. Sarah Bundey. (Pp 480; £60.00.) Edinburgh: Churchill Livingstone. 1992.

I was delighted to receive a copy of the second edition of Dr Bundey's book, *Genetics and Neurology*, for review; the first edition is one of the most used books on my bookshelf. A second edition was made necessary by the rapid advances in our understanding of the molecular genetics of the major neurological disorders and these are well covered. The increasing awareness of the importance of mitochondrial disease is reflected by the addition of an extra chapter dedicated to the subject.

Dr Bundey has not intended her book to cover all neurogenetic disorders, but rather to concentrate on the more common conditions. For each disease there is a very lucid