BOOK REVIEWS

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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 lucid 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 mitotic 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 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 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 mutagenity and the chromosomal basis of specific categories of congenital 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 a higher 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 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


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 led to considerable research and consequently to the widespread acceptance of amniocentesis as the method of choice for certain conditions. In the past few years, the increasing awareness of the high probability 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


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 extent of mitochondrial disease is reflected by the addition of an extra chapter dedicated to the subject.