somal rearrangements that can form clearly visible landmarks for microdissection. This technique has been perfected by Dr Weith and his colleagues in Heidelberg and Vienna and is capable of yielding clones of a large average size and representativeness. The dissection and cloning stages involved are adaptations of the 'oil chamber method' which they describe only very scantily. This is a great pity, especially since the relevant publications are mentioned in the very good reference lists. I very much doubt whether the method could be duplicated successfully simply from the information given in this volume. But then perhaps such methods, like the bedside manner of a clinician, are best learned under direct supervision from expert practitioners.

However, overall, the book is a highly useful summary of the field. It is small, opens flat when required, and has plenty of room in the margins for the scribbling of comments. If I was not given the review copy I would probably buy it, but the price would probably put off some prospective readers. However, such manuals are just as much tools of our trade as any thermal cycler or piece of pulse field apparatus, they are of more use in the lab. than in the library, and perhaps the equipment budget could be equally well used in their purchase.

A final point of irritation. There has developed an unfortunate folklore around microdissection and this is not helped by the publisher's blurb on the back page of this paperback. Here we are promised the revelation of 'in-house secrets usually omitted from published works'. Black magic is not involved, and I'm sure the authors deserve better for their generally clear exposition of good lab practice.

Reference

Sambrook, J., Fritsch, E. F. & Maniatis, T. (1989). Molecular Cloning: A Laboratory Manual. 2nd edn. New York: Cold Spring Harbor Laboratory Press.

WALTER J. MUIR
Department of Psychiatry, University of Edinburgh, MRC Human Genetics Unit, Western General Hospital

Chromosomes: A Synthesis. By ROBERT P. WAGNER, MARJORY P. MAGUIRE and RAYMOND L. STALLINGS. Wiley-Liss. 1993. 523 pages. Hard cover. Price $89.95. ISBN 0 471 56124 X.

I know that you should never judge a book by its cover, but it always seems such a good place to start, when book reviewing. In this case it looked promising, a snappy title, glossy colour picture on the front and solid textbook-like feel. The back cover hints at equally enticing content within. The authors' stated aims are to convey the excitement of modern chromosome biology, currently undergoing somewhat of a renaissance and hence ripe for a new and up-to-date textbook, and to encompass the areas that contribute to it – cytology, cell biology, genetics, biochemistry, molecular biology and evolution. Unfortunately, to my mind this book fails to achieve these aims. What the authors have accomplished is a very useful historical account of the subject that would have satisfactorily summarized the field up to approximately 1990. However, for a book with a 1993 publishing date there is a lot missing and for me this includes some of the most exciting things going on in the world of chromosomes. This is reflected in the reference lists, which cite no papers published in 1993 and only 7 from 1992. For example, there are 11 pages on reassociation kinetics and repetitive DNA but no mention at all of unstable trinucleotide repeats, in either human disease, or in relationship to the appearance of fragile sites on chromosomes, particularly with respect to Fragile X and the phenomenon of anticipation. Also missing is a discussion of X inactivation in relation to the product of the Xist gene, and similarly the intriguing problem of genetic imprinting is barely touched upon. Surely, these are two of the most fascinating aspects of mammalian chromosome structure and its relationship to gene expression.

As far as drawing on different disciplines is concerned, I felt that the contributions of genetics and biochemistry were understated. There is little consideration of chromosome-associated proteins, outside of the obvious example of histones; what about the polybomb/chromobox proteins, methyl-CpG binding proteins and chromosome motor proteins – kinesins and dyenins just to take a few examples? The contribution of yeast genetics to our understanding of the chromosome is drawn entirely from the budding yeast *S. cerevisiae*, whereas it is the fission yeast *Schizosaccharomyces pombe* where a tractable genetic system has been partnered with cytologically visible chromosomes to isolate mutants in, and subsequently identify genes involved in, many aspects of chromosome condensation and segregation.

Visually I found the book rather turgid and old-fashioned. Diagrams are spidery and have an unprofessional appearance. Boxed inserts are used to break up the text, but these are overly long. As you may have judged I found this book rather disappointing; graduate and undergraduate students browsing through it will get a good appreciation of the key historical findings that have laid the foundations for the study of chromosomes, but they will miss out on the most recent and stimulating aspects of the field that are emphasizing the importance of the chromosomes as a structure central to all aspects of nucleotide metabolism from the regulation of gene expression through to recombination. Indeed, you should not judge a book by its cover.

WENDY BICKMORE
MRC Human Genetics Unit, Western General Hospital, Edinburgh EH4 2XU