

*mu* transposition (Craigie *et al.*), conjugative transposons (Clewell *et al.*). In terms of the individual contributions, this volume is the equal of the Shapiro book. But where the SGM book shows up relatively badly is in the overall choice of subject matter: there are some odd additions, and some surprising omissions. In the former category, I should place, for instance, two separate chapters on site-specific recombination (which, except that the systems discussed are carried on transposable elements, have little immediate relevance to transposition). And in the latter category, there is no chapter on Class II bacterial transposable elements, which are of great importance in the problem of antibiotic resistance and which, in the words of one of the editors (K. Chater in the chapter on *Streptomyces*), "may well be . . . a major agency by which genetic information has been disseminated horizontally between groups".

So, I have some reservations about the book as a general text on transposition. But, what it does do it does very well and, for anyone interested in transposition, it is necessary reading.

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**18th Stadler Genetics Symposium. Chromosome Structure and Function. Impact of New Concepts.** J. Perry Gustafson and R. Appels (eds). Plenum, New York, 1988. Pp xvi + 326. Price £39.70. ISBN 0 306 42933 0.

This optimistically titled volume reports the proceedings of the 18th Stadler Genetics Symposium, which by careful detective work can be deduced to have been held at the University of Missouri, Columbia in 1987. Compounding this air of mystery, there is virtually no information given on the origin, history, scope or purpose of the Stadler Symposium series. This omission is unfortunate since it cannot be assumed that younger workers in this area are aware of Stadler's legacy to Genetics.

In a very brief foreword, we are informed that the symposium covers "a broad spectrum of studies on chromosome structure and function". This is an understatement! With such a large canvas to cover, it is inevitable that the coverage is patchy. The result is a collection of papers which lack a distinct coherent theme. Having said that, many of the individual contributions present valuable reviews, and in some cases original material on important topics relating to chromosome organization and function.

Although they are not grouped together, four papers are primarily concerned with aspects of the linear differentiation of eukaryotic chromosomes, including both major heterochromatic blocks and the finer euchromatic bands of *Drosophila* polytene chromosomes.

These papers cover general aspects of chromosome organization and banding (Burkholder), non-histone proteins in polytene chromosomes (Elgin *et al.*), the genetics of constitutive heterochromatin (Hilliker and Sharp) and chromosome analysis in wheat (Gill and Sears). To these can be added a further paper on cladistic analysis applied to chromosome banding data which may be of interest to taxonomists but is uninformative on chromosome structure and function.

A further sub-set of three papers present detailed molecular analyses of particular genetic loci, including the rDNA of maize (Phillips *et al.*), chorion gene amplification in *Drosophila* (Orr-Weaver and Spradling), and the R-nj allele in maize (Dellaporta *et al.*). Other aspects of chromosome organization and function are covered by useful surveys of replicons in higher plants (Van't Hof), meiotic chromosome pairing and recombination (Maguire) and a particularly fascinating and inspiring survey of recent work on kinetochore organization and function (Nicklas).

This leaves a residue of three papers covering topics as diverse as molecular mapping of plant chromosomes (Tanksley), transgenic *Arabidopsis* (Redei *et al.*) and genetic engineering of crop plants (Fraley *et al.*). Although these papers are interesting and informative in their own right they are at best of only marginal relevance to the declared theme of this symposium.

Ultimately one must ask whether this volume gives a reasonably balanced coverage of the admittedly broad title of "Chromosome structure and function" since prospective purchasers may assume that this is the case. Regrettably the answer must be no, since several possible topics of relevance and interest are excluded to accommodate contributions of little or no relevance to the theme suggested by the volume's title. Nevertheless there is much of interest here. While a broad balanced coverage is not achieved, several of the individual contributions deserve to be widely read by teachers and researchers in this rapidly advancing field.

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**Eukaryotic Chromosome Replication. Proceedings of Royal Society Discussion Meeting.** R. A. Laskey, G. R. Banks and P. M. Nurse (eds). Royal Society, London. 1988. Pp 175. Price £36.00. ISBN 0 854 03339 4.

The papers given at this meeting were first published in the *Philosophical Transactions of the Royal Society*, ser B, 317, 393-574, and later as a separate volume of 180 pages. The title is something of a misnomer, for nearly half of the pages in the Symposium Volume are devoted to prokaryotes, and the photograph on the glossy cover