biochemical and structural abnormalities. Although rather outdated, the discussions on fetal surgery and fetal hydrocephalus still raise critical questions and their conclusions are still valid today. It was somewhat surprising that there was no speculation in the chapter on biochemical defects on the possibility of future fetal 'gene therapy'. The next two sections of the book contain five papers with dissimilar topics ranging from the H-Y antigen to a review of paternal age and reproductive outcome. These sections would be of more interest to the geneticist than to the practising clinician. Finally, the last section deals briefly with the ethics of both in vitro fertilisation and the moral justifications and criteria for third trimester pregnancy termination. It is unfortunate that this section was not larger.

This book has many well written chapters by people at the forefront of their disciplines. However, it does try to cover too many areas in the broad field of perinatal genetics in too few pages and it is not clear who would benefit most from reading the volume. Those active in the field would find some of the material outdated, although a number of the papers provide excellent critical reviews of past publications. Some of the papers are clearly aimed at practising clinicians, but others are more esoteric with their major appeal to the geneticist. I would recommend the volume as a reference book for specific topics rather than for a comprehensive overview of the field.

JONATHAN ZONANA

Annual Review of Genetics

Volume 20. Edited by A Campbell, I Herskowitz, and L M Sandler. (Pp 724.) USA: Annual Reviews Inc. 1986.

This review consists of 23 chapters and covers many diverse topics. It begins with a personal narrative by Herschel Roman on the early days of yeast genetics. The topics range from *E coli* (ribosomal genes, mismatch repair, the conjugation system of F), mice (germ line transformation, primary sex determination), and humans (human haptoglobin genes, fragile X syndrome, human cancer, urea cycle enzymes). To ensure there is something for everyone, other chapters cover homeotic genes, membrane phospholipid synthesis, ribosomal genes, nitrogen fixation genes, transposable elements, and endospore formation. The net result is an excellent resource for students and those who wish to gain an overview of other disciplines. As with most multi-authored texts there is variation in style and approach. Most chapters represent a scholarly review (Pre-mRNA splicing by Michael R Green), but the chapter on primary sex determination in

mice by Eva Eicher and Linda Washburn is more of a status report on their unpublished data.

While this text can not be recommended for every geneticist's personal library, it should be included in every departmental library.

THADDEUS E KELLY

The Chromosomes and Their Disorders. An Introduction for Clinicians

By G H Valentine. (Pp 223; £17.95.) London: Heinemann Medical Books. 1986.

I was pleased to be asked to review the fourth edition of this book because I still have on my shelves the second edition which I found enjoyable and useful when it was first published in 1969.

The book begins with an updated and clearly written section on the basics of molecular genetics, including an account of the 'new genetics', RFLPs, and DNA probes. The normal karyotype is then discussed and followed by a section on the collection of samples (including amniocentesis, chorion villus sampling, and alphafetoprotein in chromosome disorders). There is then a section on the different types of chromosomal anomalies and their incidence in the general population. The second half of the book deals with clinical aspects of chromosomal disorders of the autosomes and sex chromosomes in some detail and there is a short section on cancer and chromosomes.

The book is by an Emeritus Professor of Paediatrics and Clinical Medical Genetics. It is subtitled 'An introduction for clinicians' and is not intended for a specialist cytogeneticist readership. It is a good introduction to the clinical side of cytogenetics for medical students, junior medical staff in paediatrics, medical genetics, and obstetrics and gynaecology, and for nurses working in these specialties. The style is conversational and very readable but if it has a fault it is that it strays into the realms of anecdotal, rather than factual, evidence at times. Nevertheless the anecdotes, metaphors, and even cartoons are great fun and make the book easy to read and the information quick to assimilate. References to 'further reading' are well chosen and up to date. One minor criticism is the lack of any mention of the minor deletions and translocations seen in some patients with, for example, Prader-Willi, Langer-Giedion, and cat eye syndrome. There is no mention of Bloom's syndrome in the section on unstable chromosomes or of the potential use of unstable chromosomes in prenatal diagnosis. These are minor problems in an otherwise excellent book which is, above all, stamped with the individual personality, wit, and wisdom of the author.

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