impression is that Dr Young thoroughly enjoyed constructing this book and his pleasure is transmitted to the reader.

What other subjects might be included under the title? There are sections on linkage analysis, linkage disequilibrium, linkage heterogeneity, metabolic interference, imprinting, mitotic crossing over, and mitochondrial inheritance, all growing points of genetics. I was surprised by a chapter on balanced chromosome rearrangements and an appendix on prometaphase chromosome lengths and considered that the excellent account of empirical recurrences risks for chromosomal rearrangements was more useful than efforts to estimate risks through the sizes of the unbalanced chromosome progeny that might be produced.

There is no doubt that this will be a popular book because it gives confidence and satisfaction to its readers. It will be valuable to doctors on the fringe of genetics, to nurses, and to other members of a clinical genetics unit. However, clinical geneticists should not consider that this 'introduction' absolves them from the need to study texts that consider linkage, heterogeneity, and recombination in more depth.

SARAH BUNDEY

The Identification of the CF (Cystic Fibrosis) Gene: Recent Progress and New Research Strategies. Ed L C Tsui, G Romeo, R Greger, S Gorini. (Pp 409; \$92.50.) New York: Plenum Press. 1991.

In September 1989 three papers appeared in *Science* reporting the cloning of the CF gene. They included a description of the putative encoded protein product, the cystic fibrosis transmembrane conductance regulator (CFTR), as well as the fact that some 70% of CF chromosomes carried a mutant allele with a specific three base pair deletion ($\Delta F508$). This represented the first example of positional cloning (or reverse genetic cloning) of an autosomal gene, without recourse to assistance from a chromosomal aberration and without knowledge of the nature or even the tissue distribution of the gene product. As such it was a considerable scientific achievement and finally put paid to any residual doubts that might have existed about the powers of 'new genetic' technology. It is now quite acceptable to assert that any gene responsible for a mendelian disorder, or major susceptibility gene in a multifactorial disorder, can be cloned by similar methods.

Seven months after the *Science* papers appeared, a conference on CF was held in Sestri Levante, the proceedings of which are published in this book. The conference was organised by Giovanni Romeo, whose own conclusion from pedigree analysis that CF was a single locus disorder predated the establishment of the first genetic linkage in 1985. Most of the major groups who had participated in various mapping and cloning consortia were represented, as were the equally important groups who had pioneered the investigation of ion transport phenomena in appropriate CF cells. As Francis Collins recently remarked, "until the cloning of the CF gene the worlds of molecular biologists and cellular physiologists were in collision; now they are in fruitful collusion".

I would normally view the publication of conference proceedings as an unnecessary extra burden on the stretched resources of

medical libraries. In this case an exception can be made. The cloning of the CF gene was of such importance to the world of medical genetics that some record of how it was done and what it is likely to mean is appropriate. This book is a very adequate tribute to the extraordinary collaborations that made this event possible.

D J H BROCK

Catalog of Chromosome Aberrations in Cancer. 4th ed. Felix Mitelman. (Pp 2056; \$250.00.) New York: John Wiley. 1991.

This catalogue is a vital reference for all cytogeneticists and geneticists working in the field of oncology. The fourth edition comprises 14 141 cases collected from 3496 references. The dramatic increase in data since the publishing of the first volumes has required the information now to be published in two parts.

The major difference between this and the previous three editions is that data on unpublished cases have been excluded. This is because of the much larger amount of published information now available.

The overall format remains the same as the previous editions, providing karyotypes, morphological classification of the neoplastic condition, tumour site, and references. Molecular studies performed on cancer associated chromosome aberrations are presented at the end of each section. The morphological diagnoses have been considerably extended and are now presented in a more logical order which makes the retrieval of information on specific tumour types easier.

An overview of the information on the database is presented in relation to lists of journals from which the information was retrieved and the number of cases within the different disease entities. Precise details on how to use the Catalog are also given.

These volumes provide the cytogeneticist and geneticist with a rapid and easy to use comprehensive review of publications for all previously reported chromosome abnormalities in cancer. They provide vital information on the importance of each abnormality in relation to disease type for use in both research and service laboratories.

CHRISTINE J HARRISON

Genes, Brain and Behavior. Ed Paul R McHugh, Victor A McKusick. (Pp 251; \$119.00.) New York: Raven Press. 1990.

This book promises much. It is edited by an eminent psychiatrist and a famous medical geneticist. Most of the contributors of the 16 chapters are well known for important contributions in their fields and the book is attractively produced. It is disappointing, therefore, that it does not quite live up to expectations. The reason for this is probably because the editors have attempted a nearly impossible task for, as they say in the first sentence of their preface, their aim has been to produce a "course of instruction and a forum for presentation of recent findings". Attempting to sit upon both these stools simultaneously is a hazardous exercise for all but those with the most impeccable sense of balance. Here there is more than an occasional wobble.

The book begins with four chapters on basic genetics, the most interesting and useful of which for readers who already have a background in the subject is a historical survey of advances in medical genetics over the past 30 years by McKusick. However, most of the content of this volume consists of 10 chapters focusing on particular psychiatric or neurological disorders. In the middle of these are two chapters on topics of considerable interest and relevance but where the amount of space allotted is hardly appropriate to the theme of 'brain and behaviour'.

Mitochondrial genes get 20 pages and the whole of behavioural genetics is squeezed into just 16. Although individually most of the chapters are of high quality there is a fair amount of variation in the levels at which they are pitched. Presumably in an attempt to maintain equilibrium between technicality and the general readers' needs, the editors have asked all authors to produce a brief glossary of genetic terms at the end of each chapter. Inevitably these definitions are terse, sometimes approximate, and very occasionally downright misleading.

In its favour this book does contain much useful information and conveys much of the excitement of new developments in a rapidly expanding field where difficult problems are becoming tractable because of the availability of new techniques. However, in attempting to cover recent advances and at the same time provide the elements of a basic introductory text, the editors have failed in their aim of producing "an essential resource for all neurologists, psychiatrists, and neuroscientists".

PETER MCGUFFIN

Genome Analysis. Volume 1. Genetic and Physical Mapping. Ed K E Davies, S M Tilghman. (Pp 189.) New York: Cold Spring Harbor Laboratory Press. 1991.

The average clinical geneticist and even their molecular cousins may initially be slightly confused by some of the terminology in this book. For example, they will find that the proband is not a distant relative of a patient coming for counselling, as they might have guessed, but the component, in a hybridisation, which is fixed to a solid support. In other words, this is a serious book of techniques and protocols for some of the most advanced mapping technologies currently available, but there are also some examples for the clinical and molecular geneticist which are likely to revolutionise their trades over the next few years. Volume 1 of the series *Genome Analysis* is devoted to Genetic and Physical Mapping. The topics covered are fluorescence in situ hybridisation, with particular reference to nuclear organisation, hybridisation finger printing, yeast artificial chromosomes, germline deletion mutations in the mouse, and DNA polymorphism based on length variations in simple sequence tandem repeats.

The chapter on simple sequence tandem repeats, concentrating on (dC-dA)_n(dG-dT)_n polymorphisms, is written by James L Weber, one of the originators of the analysis of this type of polymorphism. The chapter can be thoroughly recommended for the excellent mix of theoretical background, practicalities, and useful examples.

The chapter on Yeast Artificial Chromosomes by Philip Hieter and colleagues is

subtitled 'Promises kept and pending'. The promises kept are mainly so far on the technical side and are truly impressive. Clinical applications come more into the pending category.

Probably the chapter with the greatest long term significance is that on fluorescence in situ hybridisation (FISH) (Jeanne Lawrence). It starts with a lot of technical information optimising the conditions for efficient signal detection. Numerous technical parameters are fairly easy to test with fluorescence detection but in fact, for the most part, the studies end up confirming the knowledge acquired in the days when radioactive probes were used. The best examples given in this chapter concern hybridisation of probes to interphase nuclei. One beautiful example concerns probes from different regions of the dystrophin gene. Two probes just over a Megabase apart are shown as two distinct clearly spaced dots in the nucleus of a male. The corresponding hybridisation to nuclei from a female shows two such pairs of dots. The corresponding experiment using probes only 375 kb apart shows a closer spaced pair of dots in the male and two pairs in the female. These examples must surely point the way to solving the perennial problem of carrier diagnosis in the female relatives of boys with Duchenne muscular dystrophy associated with deletions of the dystrophin gene. Many other potential applications will arise as this technology becomes more widespread.

Each chapter opens with a clear introduction and a list of major points to be covered, but many of the gems are well hidden in the chapters.

S MALCOLM

Hereditary Tumors. Ed M L Brandi, R White. (Pp 230; \$82.50.) New York: Raven Press. 1991.

This book is the proceedings of a conference on hereditary tumours held in Florence, Italy on 22 to 24 April 1991. The book is notable for the speed of publication and the number of distinguished contributors. It therefore provides an up to date and authoritative account of a number of aspects of this important subject. Although the range of topics covered is wide (including articles on molecular genetics, genomic imprinting, and clinical aspects), it is not comprehensive. The multiple endocrine neoplasia syndromes are covered in most detail (five contributions) but there are contributions on the molecular genetics of neurofibromatosis type 1, Beck-

Wiedemann syndrome, familial melanoma, lung cancer, genomic imprinting, and tumour suppressor genes (general aspects and specific articles on Wilms's tumour, retinoblastoma, and p53 genes).

Although most of the material contained in this book can be found separately in recent review articles, this book presents a convenient collection of up to date articles on selected aspects of hereditary tumours. One price of rapid publication using camera ready manuscripts is a lack of conformity in the presentation of individual articles.

EAMONN MAHER

DNA Fingerprinting: Approaches and Applications. Ed T Burke, G Dolf, A J Jeffreys, R Wolff. (Pp 400; SFr 168.) Berlin: Birkhauser. 1991.

This book is a collection of papers presented at the First International Symposium on DNA Fingerprinting held in October 1990. It contains a wealth both of technical information and fascinating reading, detailing a wide range of applications ranging from parasitology to population genetics and with comprehensive reference lists. Who would have thought that sequences useful for disentangling family relationships in humans would be closely related to sequences which can perform the same function in rice plants? Another chapter which caught my interest was a contribution to the problem of altruism in animals – the demonstration that bee eaters who help at the nest of other birds invariably help their relatives but do not in general contribute by paternity to the offspring.

Is this book useful to those whose main interest is in medical genetics? On the whole the emphasis is on true fingerprinting, that is, the generation of complex highly individual patterns which are the product of multiple loci. The human applications of these are in forensics and law rather than medicine. The establishment of true biological relationships between individuals is often of importance in genetic counselling but probably most laboratories would find it easier to use a series of locus specific probes rather than a core probe. The finding of an additional band in the fingerprint of one of a pair of monozygotic twins with Proteus syndrome is interesting but does not advance understanding of the condition. On the whole it reinforces the depressing conclusion previously reached that although a pair of MZ twins, one of whom has a clearly inherited disease, should be a valuable resource it

is very hard to think of anything useful to do with them.

If you are an aficionado of DNA fingerprinting or if you dabble in forensic problems or in extracting results from minute and degraded samples then this is definitely the book for you. However, if you would really prefer a locus specific probe or a dinucleotide repeat to solve your problem, perhaps you should just persuade your library to buy a copy.

S POVEY

NOTICES

Latin American Directory of Research Centres in Human Genome. R Cruz Coke. 1991

Copies of this directory are available from the Department of Biochemistry, University of Chile School of Medicine, Independencia 1027, Casilla 70086, Santiago, Chile 7. Fax: 56-2-376320.

Standing Committee on Human Cytogenetic Nomenclature 1991-96

Elections for the Standing Committee on Human Cytogenetic Nomenclature were held at the 8th International Congress of Human Genetics in Washington, DC, on 10 October 1991. The following members were elected for the period 1991-96: Felix Mitelman, Sweden (Chairman), Jose Carlos Cabral de Almeida, Brazil, H John Evans, UK, Patricia N Howard-Peebles, USA, John M Opitz, USA, Avirachan T Tharapel, USA, Walther Vogel, Germany. Issues regarding human cytogenetic nomenclature can be addressed to any member of the committee.