Book reviews

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Molecular Basis of Inherited Disease

By K E Davies and A P Read. (Pp 77; £5.95.) Oxford: IRL Press. 1988.

I enjoyed reading this book. It is clearly written in a crisp, concise style that occasionally verges on the terse. The aim is to review recent advances in our understanding of the molecular basis of human inherited disease. There is a glossary of genetic diseases and another of scientific terms, but some acquaintance with the terminologies of Mendelian genetics, of molecular biology, and of biochemistry would be advisable.

The first chapter briefly reviews pedigree structures and the nature of genetic markers. The second chapter outlines the techniques used to map disease loci and random DNA markers, and to identify gene mutations at the RNA level and by using the polymerase chain reaction. This chapter includes a discussion of genetic linkage analysis. The third chapter examines methods for the identification and isolation of disease genes. The techniques of subtractive hybridisation, of genomic enrichment by chromosome sorting, the pERT methodology, and chromosome mediated gene transfer are described. Large fragment gel electrophoresis is discussed and its uses in the construction of jumping libraries and of physical maps and thence in gene identification.

The fourth and final chapter focuses on the nature of the mutations found in different human genetic diseases. Attention is paid especially to β thalassaemia and to Duchenne muscular dystrophy, but reference is also made to a variety of other conditions.

This book sketches the approaches being adopted in the study of human genetic disease and the type of answers being found. It spells out some of the applications of these methods that have been fruitful, and indicates in passing where there is potential for future work. I would recommend this book warmly to students or researchers with some knowledge of molecular genetics but little knowledge of human genetic disease, or vice versa. It will be of use to all those who want a concise summary of the field, and should enable the reader to follow current publications. The text is almost free of errors of typography, and the clarity of the layout and illustrations is only limited by the high density of facts per cm². The book does not set out to be a

practical guide, nor does it attempt to provide sufficient detail to satisfy those who need to understand in depth the molecular pathology of specific diseases.

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Human Mating Patterns

Society for the Study of Human Biology Symposium 28. Edited by C G N Mascie-Taylor and A J Boyce. (Pp 237; £25.00.) Cambridge: Cambridge University Press. 1988.

The 14 papers in this small book were presented at a two day meeting of the Society for the Study of Human Biology at Oxford in April 1986. The broad topics are the factors determining mating choice and the biological consequences of different mating patterns. Papers are grouped under the headings Historical and Demographic Studies, Mate Choice and Assortative Mating, Medical and Biological Aspects of Inbreeding, and Social, Religious, and Cultural Factors.

Clinical geneticists looking for an easy digest of the relevant (to them) bits of anthropology will not find it here. Most of the papers discuss detailed data or methodology, and often assume familiarity with the references. The most promising title, *Mating Patterns and Genetic Disease*, heads a chapter by Harper and Roberts which explains (very nicely of course) to anthropologists matters well known to clinical geneticists.

Inbreeding is the main topic which obliges clinical geneticists to think about mating patterns. Bittles and Makov give a useful summary of published reports on the incidence of stillbirths and deaths in the first year in inbred marriages. If it were true, as often claimed, that the average person carries two to four lethal genes, the costs should be much higher than they really are. Why then did the classic studies of Morton, Crow, and Muller give this high number of lethal equivalents? Bittles and Makov suggest reasons, but it would have been nice to see more discussion of this problem. Meanwhile the zoologists Read and Harvey (*Genetic Relatedness and the Evolution of Animal Mating Patterns*) suggest that animals might maximise their inclusive fitness by