After an introduction to the symbols used and simple operations with matrices and vectors relevant to distance calculation, the main body of the book falls into three parts. The first deals with distance coefficients calculated from quantitative variables, starting with Czekanowski's 1909 introduction of the mean difference (DD) and the simple derivatives from it, then passing rapidly to methods involving squared differences, the coefficient of racial likeness, Penrose's $C^2_H$ and Mahalanobis's $D^2$, and subdivision of $D^2$ and $C^2$ into size and shape components. For each of these, examples are worked in full detail, and attention is drawn to the inter-relationships between the various methods.

The second main section concerns distance coefficients calculated from qualitative variables. Since these are of rather more recent development, their presentation is not in chronological order, but by type of method. The first category covers coefficients based on squared differences between percentage of frequency values, the second those using the same principle as $\chi^2$, the third those coefficients by which the differences in percentages between populations are expressed in terms of the elements of the pooled dispersion matrix of all investigated groups (ie, corresponding to the calculation of $D^2$ for quantitative traits), and the fourth those based on angular transformations of the original percentages of frequencies. The third main part deals with methods of combining quantitative and qualitative variables into a single measure of distance.

This is not an easy book to read. English is clearly not the author's mother language. There is no index. Hierarchical methods would have been a logical inclusion. Academically it is doubtless useful to have the older methods set out so that readers can appreciate why the complexities of the modern methods are necessary. But in these days of modern computers, whereby work can be done in seconds which would have taken years of desk calculation, few will spend time applying these methods step by step, except perhaps in those centres where facilities are limited. But here perhaps is the main value of the book, for recourse to computer analysis should occur only when the methods themselves are appreciated for their merits and demerits, and for this the book is a valuable introduction. It is clearly presented and the examples are worked with thoroughness and accuracy.

D. F. ROBERTS


In the preface to this book the authors point out that it is intended primarily for undergraduates in the fields of medicine and human biology, and as such it joins a number of competitors covering comparable ground. In general the comparisons are favourable, but the inclusion of many topics has led to them being considered so briefly as to be of limited value.

There is an excellent introduction to human genetics with a rather condensed account of aspects of nucleic acid biochemistry. It seems likely that this would be amplified by biochemical courses in most medical schools, and for this reason the short section on the biogenesis of gonadal hormones seems superfluous. Contraception is dealt with briefly, and a note on the therapy of infertility is included.

The chapters on conventional embryology are of a high standard, with good line drawings which supplement the text. The notes on malformations of various systems at the end of each chapter are unsatisfactory, in general not the idea of the frequency or clinical importance of various defects is given, a defect not repaired in a final chapter on malformations and twinning. The chapter on postnatal development is good and rightly emphasizes this phase of human maturation.

The book is easy to read in its less condensed areas, and is well produced, with excellent cross-referencing. It is a good embryological text with useful information on other aspects of reproductive studies.

C. L. BERRY


This monograph is a most valuable study on genetic aspects of mental subnormality. The authors of both parts are to be congratulated on their concrete and biologically sound approach to a subject which is only too frequently treated with lamentable vagueness. It is also comforting to know that a further slice has been cut out of the large amorphous mass of conditions associated with subnormality of unknown origin, and attached to the smaller group with known aetiology and prospects of treatment and prevention.

In the first part, Dr Davison reports on investigations of 141 families in the area of the Oxford Regional Hospital Board. In each of these there were two or more severely defective individuals with an IQ of 50 or less. They were not suffering from any condition of known aetiology associated with subnormality. In 50 of these families males only were affected, in 20 females only, and in 71 both males and females were affected. An analysis of the data from various aspects provides evidence which is compatible with a major contribution by X-linked genes to severe subnormality. It is probable that these genes account for a considerable proportion of the hitherto unexplained excess of males among severely retarded patients. In studying the survey one misses an attempt to classify the cases apparently caused by X-linked genes into entities or groups, according to clinical and other signs. Secondly, the validity of some of the dermatoglyphic arguments could be disputed, but these are both