A certain arbitrariness in designating degrees of assurance was necessary, and, providing the rough and provisional nature of such maps is appreciated, this method of assignment has provided some maps which have, in the main, survived the next annual stocktaking held in Holland last July.

A detailed list of variant loci with recommended abbreviations, is also included. There are some misprints, of which the most misleading is an editorial translation of P.T.C. (Phenylthiourea-Carbamide) to Hem.B., presumably due to confusion with plasm thromboplastin component. Anyway, the linkage noticed by Chautard should have been between P.T.C. and Kell.

This is an important reference book for those working on linkage, but its expense will exclude it from most departments with other main interests. There is, of course, almost nothing about the secure location of morbid loci, a subject as yet hardly touched by the new techniques.

J. H. Edwards


This book is based on six lectures originally intended for senior undergraduates and postgraduates at Oxford. The declared aim is to awake an interest in the unanswered problems of cell biology, and in this it should be very successful. Evidence from such widely differing organisms as bacteria, unicellular algae, and Drosophila, and also from highly differentiated mammalian cells, is used in considering nucleocytoplasmic relationships.

Each experiment is described in such a way that even a reader not familiar with all the technical details can still appreciate and assess the contribution made by the result to the understanding of a particular problem. The quality of the photographic plates is high and there are an extensive and useful list of references.

In this third edition much new information is included, especially recent work on the properties of messenger RNA and on cell fusion, the latter a field which was of course pioneered by Professor Harris. One of the attractions of the book is that it is the personal view of one author, and one not afraid of controversy. Inevitably there has been some selection of material, especially since the book is still relatively short—sometimes the reactivation of the chick erythrocyte nucleus in the chick mouse heterokaryon is described in great detail, whereas the regulation of synthesis of proteins characteristic of certain differentiated cells in mononucleate hybrid cells gets only a single page. As the author says, these experiments mostly involved aneuploid cell lines of unstable karyotype, so that the interpretation of the results is difficult, but perhaps his view of the potential interest of such work is unduly gloomy. The final chapter is concerned with normal differentiation. Medical readers might have hoped to find some discussion of pathological conditions such as malignancy but unfortunately this has not been included.

However, the third edition of this well known book remains an extremely readable and comprehensive summary of current knowledge, essential reading as an introduction to the field, but also probably of interest to those workers whose own experience has involved a more limited range of organisms.

Susan Povey


This book which is a translation from the German version, is useful since it collects together almost all the cytological techniques that would be required by the cytogeneticist for cell culture and the processing of cells for chromosome analysis. The inclusion of two chapters on the new banding techniques is particularly welcome. However, the translator can not have been conversant with cytogenetics, with the result that occasionally a description is totally misleading, this combined with bad proof reading has made certain parts incomprehensible.

The description of most simple techniques, such as making slides by the air-drying method, are unnecessarily complicated and in some passages, several statements are erroneous; therefore this book is not for the novice.

The inclusion verbatim of a large part of the Report of the 1971 Paris Conference on standardization in human cytogenetics, with no comments or explanation seems a pointless exercise when the report is readily available internationally. Further serious limitations of this book are that the reasons are not given for much of the technical variations described and there is an inconsistency in providing the sources of materials and chemicals. In this type of cookery the make of a stain, for example, is important in obtaining a given result.

The authors must be recommended for their references, which are up to date with even some 1974 publications; however, there are some noticeable omissions from earlier years. I consider this book not to be worth its price.

Karin Buckton


This is an English translation of the French edition published in 1970. The translation was made by D. and B. Charlesworth (Liverpool, England), who are both competent in the field, and is very well done. Several parts have been revised since 1970, new sections added, and there are three new chapters on human population structure and a new appendix on difference equations.

The book is essentially a mathematical and theoretical text and is for the specialist in human population genetics. There is little guidance on application. For example, the theory of estimating linkage is discussed but not how to estimate a lod score in practice. Where examples are given they are usually taken from human