Books and Monographs


Too often, when a book is published which attempts to cover such a wide field as this one, it is written by a large number of authors of varying competence, with much overlap and even contradiction between their contributions, or if it is written by one author it bears evidence of uncritical use of scissors and paste on abstracts. The present book is remarkable as the work of a single author who has succeeded in covering a very wide field, with a vast and rapidly growing literature, and has yet succeeded in maintaining an eminently readable style while omitting nothing of importance which could conceivably come within the scope of the title. She has assessed every fact or alleged fact critically, and shown its relation with the whole known genetic picture. The main text covers the literature with remarkable completeness up to about the end of 1967, and an addendum brings it up to September 1968.

Every known class of genetic factors which could be used as markers is dealt with, beginning with the immunoglobulin systems, Gm and Inv. These are followed by the haptoglobins, to the study of which the author has made important contributions, the transferrins, and numerous other plasma protein factors: the Gc types, the beta-lipoproteins, pseudocholinesterases, alkaline phosphatases, and several other factors of less immediate importance.

The second part of the book, on the genetic markers in the blood cells, begins with the red cell antigens or conventional blood groups. For a full account the reader is referred to the book of Race and Sanger, but the present account (57 pages of text and 21 of references) covers these factors very fully from the stand point of genetic polymorphism. The haemoglobins, also, have been the subject of a number of comprehensive books, but here again the whole subject is admirably summarized from the genetic point of view. The very full account of the red cell isoenzymes brings up to date and extensively supplements the monograph of Beckman published in 1966.

For every system described, the account of the genetics is backed by a section on methods of testing. These sections, while necessarily brief, contain all that is needed for investigators other than beginners, and for the latter references are given to sources of more detailed and elementary instructions.

The author finally sums up her own conclusions in a chapter on ‘Contributions of blood genetic markers to studies of human biology’, which is followed by the stop-press addenda already mentioned.

There is a comprehensive index; the book is well printed on good paper; misprints are few. This is one of those rare books that can be recommended without reserve. It should be in the hands of all human biologists, of every kind, geneticists, haematologists, immunologists, biochemists, and anthropologists. The clinician too, despite the many excellent books on human genetics now available and specifically addressed to him, will here find much that is new and stimulating. In setting the price at 85s. for 656 pages, remarkably low by recent regrettably high standards, the publishers have clearly taken a chance on the acceptability of the book to large numbers of individual readers, and they deserve to achieve a wide circulation: too many publishers today will not take such a risk, and books which would be of great value to individual research workers are so priced that only libraries can afford them.

One has, however, an uncomfortable fear that, in another three or four years, when a new edition will certainly be needed, the subject will have grown to a size beyond the possibility of treatment of one author, even of the ability and extraordinary industry of Dr. Giblett—for it is the unified authorship which gives the book much of its value.

A. S. Mourant


Few aspects of microbial genetics have been more exciting and thought provoking than the discovery and study of episomes, a class of genetic elements which can exist alternatively as chromosomal segments or as freely-replicating extrachromosomal fragments. Episomes, or at least the bacterial resistance transfer factors which share many of the same properties, are now recognized as being of tremendous importance in connexion with the growing problem of bacterial resistance to antibiotics. The properties of episomes also suggest fruitful analogies with various unorthodox genetic situations in higher organisms including virus-induced transformation of animal cells and the mutable and transposable ‘controlling elements’ associated with high mutability in maize.

The time was ripe for a monograph, and nobody was better equipped to write one than Dr. Campbell, who as well as being one of the most brilliant experimentalists...
in the field has been the originator of much of its currently accepted theory. The resulting book is far more than a mere review of the literature—it contains a wide-ranging and critical evaluation of the experimental foundation of the episome concept not to be found anywhere else. Dr. Campbell devotes a major part of this book to the bacteriophage lambda, which has been the main subject of his own research. Indeed, lambda is by far the best known model of an episome yet available. However, detailed attention is also given to the F (fertility) factor of Escherichia coli, to the extrachromosomal determinants of colicinogenicity in Esh. coli and salmonella, and to the R (resistance transfer) factors. The similarities and differences between these various elements are fully discussed in a very illuminating way. They all have in common the basic property of being able to replicate independently of the chromosome, and most of them have some means of spreading in infective fashion from one bacterial cell to another. The capacity for chromosomal integration, the distinctive feature of an episome, is possessed by only some of these elements, and to this extent Campbell’s title, as he himself recognizes, focuses attention on only one property of the general class of plasmids, to use Hayes’ term.

The book is not a long one, but the writing is concise and the information content high. Little time is spent on introducing the reader to terminology, and only those already partly familiar with microbial genetics will find the book easy going. Even the comparatively well-prepared reader may find that some of the later chapters require frequent pauses for thought. In discussing the famous ‘Campbell model’ of the mode of integration of episome into chromosome the author comments that he was by no means convinced of its truth when he first proposed it. He goes on to remark that in the early days of a new hypothesis it may be necessary to look at the facts with a good deal of optimism in the hope that apparently contrary evidence will be shown to be invalid; subsequently, if the theory becomes well established, there comes a time for criticism and for the rigorous testing of its consequences in all possible ways. In this book there is a measure of hopeful and enlivening speculation more than balanced by a very critical examination of the logic of the arguments used. It requires, and more than repays, careful reading.

J. R. S. FINCHAM


The first edition of this book, published in 1964, was greeted with enthusiasm and enjoyed a great success. It was almost unique in being scholarly, comprehensive, and readable. With the second edition the general character of the book has not changed; many passages stand unaltered and the newly written sections, which demonstrate again the lucidity and grace of the author’s style, fit easily into the existing framework. Nevertheless, Professor Hayes has managed to take account of a large amount of new material published during the past five years. The bibliography has been expanded from 46 to 84 pages, with a great many new references added and only a very few of the old ones deleted. The text has grown from 667 to 804 pages and the author has done well to keep the increase down to so modest a figure. New growth has been kept within bounds by judicious pruning of the previous text. Here and there space has been saved by omitting or reducing discussion of a not-so-fruitful hypothesis or of a controversy now more or less settled (as in the case of the mode of integration of lambda prophage). But no important issue is evaded and the author is, as always, very fair in his presentation of conflicting lines of evidence on questions still undecided.

There are a considerable number of new illustrations and some of the old ones have been redrawn. To judge from my copies, the two-colour printing, which is a great help in the understanding of some of the diagrams, has been done more neatly in this edition (the second colour has changed from red to green to match the new dust cover). There are also several new photographic plates, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, mostly showing electron-micrographs, most...