

Genetic Recombination – Understanding the Mechanism

by H.L.K. Whitehouse

Wiley; Chichester, New York, 1982
416 pages. £23.75

Recombination is central to genetics and most geneticists will have constructed linkage maps. Molecular biologists increasingly use the products of recombination in their studies and refer to gene conversion for the homogenisation of DNA sequences. In both cases concern is with the end product, the new gene combination, few study or even know about the mechanisms by which these end products are achieved and yet much is known about this process.

While I frequently use the end products of recombination I knew but little of the details presented here. However, as I read *Genetic Recombination* I became fascinated by this detail and by the ingenuity with which experiments are designed and executed to demonstrate and test various features of recombination. I suspect that much of this excitement would be lost in the originals where the flow of the narrative would be interrupted by its fragmentary nature. The authors of the originals are in debt to Whitehouse for presenting their work in a way which very much reflects to their credit.

All this is not to say that *Genetic Recombination* is an easy read; nor am I able to retain more than a small fraction of the detail, but I now know where to look. In reading the book I needed quiet, a pencil and paper and the patience to go over points until they were understood. In this I was

helped by an explanation in the text and a diagrammatic presentation of the same work. Generally after reading and working my way through the diagram I felt I had grasped the point and how it was made. Those already familiar with the subject will have an easier passage but nonetheless should be grateful to have all this work in one book, but those to whom this is new will experience my difficulties. This is in no way intended as a criticism of the author as I doubt if anyone could present this complicated problem so comprehensively and clearly, but rather as a warning to the reader. However, the rewards are considerable and I felt a sense of achievement as I came to understand the points made.

The book starts by considering transformation, it goes on to discuss recombination in different viruses, in bacteria and finally in eukaryotes. It will be a long time before these data and ideas are presented in a single book again and even in a rapidly advancing subject the book will have a long life. It is too advanced on too limited a field for undergraduates but it would be suitable background reading for graduate students about to start on topics involving recombination. Above all it is for those of us who use recombination and perhaps ought to know how it is brought about.

D.B. Roberts