

## Book reviews

**Claus, G. W.: Understanding Microbes: A Laboratory Textbook for Microbiology, 1st Edn.** New York: W. H. Freeman and Cie 1989. 547 pp., many illustrations. Soft bound \$ 22.95.

This book is intended for an introductory microbiology course and presents 58 experiments arranged in 14 topics, each topic comprising 2–11 experiments. What is new in the book? Its most noticeable facet is indicated by the sub-title “a laboratory textbook”: each exercise commences with a comprehensive explanation of related concepts and methods. Therefore the book is not simply a description of experiments, but also a well-written textbook on microbiology. Each introduction is summarized by learning objectives, followed by a list of materials. The procedures describe the sequence of the experiment step by step and are complemented by illustrations (line drawings and photographs) and boxed notes on techniques and interpretations.

As all the pages (the cover included) are perforated, the book can be torn up to make recombinations of the text. Points of criticism? During my initial inspection of the referee's copy, I was amazed to find in the table of contents – as part of the title of exercise 37 – “The Plague Assay”. At a second glance I was relieved to see that it appeared to be a printing error – one of the very few which I encountered. Summary: I urgently recommend the book to teachers (and their students) in general microbiology.

C. K. Stumm, Nijmegen

**Roychoudhury, A. K.; Nei, M. (eds.): Human Polymorphic Genes World Distribution.** New York Oxford: Oxford University Press 1988. 393 pp., 53 maps, 217 tabs. Hard bound £ 45.00.

These authors provide a book dealing with the distribution of human polymorphic genes, which, unlike the works of Mourant et al. (1978) and Tills et al. (1983), covers as many gene loci as possible. In total, 362 genetic systems are mentioned, as well as data tables for HLA systems and selected, well-defined nuclear DNA polymorphisms. The tables comprise only one set of gene frequency data for each population as a rule. It is this restriction that enabled the authors to hold the book to a handy size; these omissions are a strong point rather than a disadvantage of the work. The excellent introductory paragraphs present various mathematical formulas that are useful for constructing linkage maps, genetic counselling, and paternity testing.

Tables contain information on chromosome location, gene frequencies, heterozygosity and probability of paternity exclusion for most of the loci.

The book provides a handy aid for research workers in anthropology, human genetics, and paternity testing.

A. Du Chesne, Leipzig

**McKie, R.: The Genetic Jigsaw.** The Story of the New Genetics. Oxford: Oxford University Press 1988. 160 pp., 9 figs., 1 tab. Cloth bound \$ 29.95.

It can sometimes be very useful for a breeder to be provided with an overview of modern genetics through the eyes of a non-insider. The science correspondent of the Observer, Robin

McKie, knows how to tell his eye-catching stories in a clear and excellent way. His discourse through actual problems of genetics is directed towards the diseases of man that are transmitted genetically: what they are, how they occur, and how their risks can be reduced or even completely negated. Advances in the diagnoses of hereditary diseases and gene therapy (gene splicing, cloning, DNA finger-printing, breaking of the genetic code, work with restriction enzymes) are described in an elementary way. As could be expected from a science journalist, he does not disregard the ethical implications. Just why the progress that has been made in genetic engineering and the perspectives for curing chronic diseases has to be called a revolution and “new genetics” is not at all clear, although it will attract the attention of the laymen and may help with the promotion of the book. It remains to be said that the book reads easily, and although it is a bit sensational, the facts are generally well researched and tastefully presented.

H. F. Linskens, Nijmegen

**Chapman, G. P.; Ainsworth, C. C.; Chatham, C. J. (eds.): Eucaryote Cell Recognition: Concepts and Model Systems.** Cambridge New York New Rochelle Melbourne Sydney: Cambridge University Press 1988. 315 pp., many figs. \$ 35.00.

Interaction is a “hot” scientific topic. One special aspect of interaction is recognition, which is involved in sexual and host-parasite interactions. The underlying assumption that is made regarding the localization of recognition events is that they all occur at the membrane surface. A particular problem in higher plants is the fact that direct contact between membranes seems to be rendered more difficult by the existence of exogastic cell walls. However, there is still a basic conviction that a general mechanism involving glycoproteins forms the basis for cellular recognition, while receptor molecules provide the key to the signalling processes by receiving the external signals and transmitting the messages to the cell itself.

It is apparent that the Third Wye International Symposium brought together a large number of researchers working on a wide range of organisms. While the date of the meeting is not mentioned, the dates of the latest references cited give the idea that it was in 1986.

The book is divided into four parts, the most interesting of which consists of three papers combined under the joint title “Concepts”. The other three sections are arranged according to organizational level: recognition in single-celled organisms, in multi-cellular organisms, and between organisms. In experimental approaches, most of the standard model systems are plants (yeast, algae, slime moulds), although *Paramecium*, sponge and the fruit fly are used in investigating the controlling mechanisms of sperm-egg encounter. The question of an analogy between incompatibility and the recognition processes underlying specific resistances to plant pathogens is still open to discussion. The latter could better be compared with incongruity in the case of the pollen-stigma interaction.

This collection of model systems and ideas will surely stimulate the molecular approach as well as interesting researchers into making observations on recognition in organisms other than the standard models.

H. F. Linskens, Nijmegen