

with 'higher' eukaryotes, is a serious attempt made to summarize the similarities and differences between organisms. In brief, the book suffers from 'multi-author syndrome'. That said, the majority of chapters are good enough summaries of their respective fields that a reader with some understanding of molecular biology can use the book to broaden his or her horizons.

Not surprisingly, given the large number of man-years invested in the topic, the genes of the yeast *Saccharomyces cerevisiae* are the best understood, at least among the microbial eukaryotes. A clear summary of the structure of a typical *S. cerevisiae* gene is presented in the chapter by A. Brown and G. Lithgow: gene transcription and its regulation, and the DNA sequences directing these processes are clearly presented. In addition this chapter includes a discussion of post-transcriptional events – mRNA stability and translation – and their often overlooked roles in regulating gene expression. RNA splicing and the sequences that direct it in *S. cerevisiae* genes are discussed in a separate chapter (D. Gallwitz and colleagues). Filamentous fungi have been popular targets for the investigation of gene regulation, and the development of transformation systems in particular has led to the molecular analysis of structural and regulatory genes. S. J. Gurr and colleagues have assembled a useful and comprehensive list of filamentous genes so far studied, and attempt to draw general conclusions about the sequence requirements for transcription, splicing and so on.

The mitochondrial genomes of yeasts and filamentous fungi are discussed in three separate chapters: these could usefully have been combined, especially since *S. cerevisiae* and *Schizosaccharomyces pombe* are dealt with by the same author (K. Wolf: filamentous fungi are described by T. Brown). The total space devoted to mitochondrial genomes of fungi is nearly as much as to their nuclear genomes. Furthermore the nuclear genes of *S. pombe*, surely a contender for second place to *S. cerevisiae* as a model genetic microorganism, are not discussed other than peripherally.

The chapters on algae (D. Nicholl), *Physarum* (N. Hardman) and ciliated protozoa (A. Wilson & J. Somerville) present remarkable contrasts. The detailed structure of some nuclear and chloroplast genes of *Chlamydomonas* and *Euglena* is reviewed: an area of considerable interest since the two subunits of the central photosynthetic enzyme ribulose biphosphate carboxylase are encoded in different genomes. Rather few genes have been identified and analysed in *Physarum*, and consequently the chapter is mainly concerned with overall genome structure. From this point of view, the ciliates present the most intriguing picture, and the major genomic changes which take place during the development of the 'somatic' macronucleus from the 'germ-line' micronucleus are clearly explained.

Two other chapters deal with organisms of medical

rather than purely academic importance: the malaria parasite *Plasmodium* (M. Mackay) and trypanosomes responsible for several serious diseases (P. Michels). Interest has concentrated on the genes involved in pathogenicity such as surface antigens characteristic of the different stages in the life cycles, with a view to vaccine production. The variable surface glycoproteins of trypanosomes are responsible for evasion of the host's immune system, and the means by which the genes are assembled and activated by transposition to a telomeric site is one of the most exciting areas of current research.

In summary, this is a book whose constituent parts are very much better than the whole: priced at £27.50, the book is a useful library acquisition, but potential individual purchasers might prefer to consider texts more specifically related to their particular interests.

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International Industrial Biotechnology. Cambridge University Press. Vol. 8. 1988. 6 issues. £55 for Institutions, £32 for Individuals. ISSN 0269 7815.

This is a bimonthly periodical published by Cambridge University Press with editors from Cranfield Institute of Technology and an editorial board of 6 (4 UK, 1 USA, 1 Korea) and with the stated intention of appointing an additional editor from the far east. The periodical is a relaunch of a publication which began life as *Industrial Biotechnology Wales* in 1983 and edited by R. N. Greenshields.

Industrial Biotechnology aims at a wide readership and the two issues seen by this reviewer contained some 'regular features' including personal profiles, national biotechnology programmes, company reviews, equipment news, outlines of market surveys, book reviews and a list of forthcoming events together with a patents digest. In addition, there are a number of more specialized scientific articles (written at a standard suitable for the non specialist), on topics as diverse as HPLC applications, algal culture, monoclonal antibody technology, protein purification, agrofibrres, etc.) and articles on economic aspects (business planning and financing).

This is therefore a 'current awareness' periodical likely to be read by those interested in the commercialization of biological research and to be found in 'coffee clubs' and the like. The nearest equivalent would be the well established *Nature 'Bio/Technology'*. At £5.33 per issue (personal subscription) it is priced competitively with the more glossy, colourful and upmarket 'Bio/Technology'. Time will tell if it is to be a commercial competitor.

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