population geneticists, there are a surprising number of errors. Some may have crept in via the translation process, some appear to result from poor proof-reading, but others seem likely to have appeared in the original French text. For example, in interpreting gel patterns, it is useful to know the quaternary structure of the enzyme, and the authors helpfully provide a list of such structures for this purpose. But the errors in this list may serve to hinder rather than assist. Fumarase, glyceraldehyde-3-phosphate dehydrogenase, malic enzyme and sorbitol dehydrogenase are all typically tetramers, not dimers, creatine kinase is a dimer, not a monomer (although it is true that in bony fish, muscle CK appears to be a monomer since heterodimers are not formed), alkaline phosphatase is usually a dimer, not a monomer, and only the cytoplasmic form of superoxide dismutase is a dimer, the mitochondrial form being a tetramer.

This muddle over quaternary structure permeates the text in several places, and could confuse students new to electrophoresis. For example, at one point the authors state '...malate dehydrogenase, an enzyme that is normally tetrameric but which in dimeric and even monomeric associations shows a certain catalytic activity'. MDH is a dimer not a tetramer, and the authors correctly refer to it as such in their list of quaternary structures. It may be that malic enzyme is being discussed here, which is typically a tetramer (although listed in the book as a dimer). Similarly, referring to lactate dehydrogenase, the authors correctly say that in most species the enzyme is a tetramer and that five bands will be formed in heterozygotes, but continue: 'However, in many species, heterozygotes have two chains (three bands) because the asymmetric heteromeric molecules (AAAB and ABBB) are not formed.' If the asymmetric hetero-tetramers were not formed (in my view an unlikely occurrence in allelic products at an LDH locus), enzymes in the heterozygotes would still consist of four chains, not two. Possibly the authors are referring to the D-lactate specific LDH of some invertebrate groups, which is dimeric and hence would produce three bands in heterozygotes.

Part II is the most useful section of this book, and includes a compilation of electrophoresis buffers and staining recipes. These looked workable, and the only obvious error was in the recipe for aconitase, which lacked the linking enzyme isocitrate dehydrogenase. Starch is favoured as the electrophoresis medium, and although this probably remains the medium of choice for most people engaged in this sort of work, many have recently switched, wholly or partly, to the use of cellulose acetate gels. These gels are more or less ignored here, but offer tremendous speed and convenience benefits over starch (we find the Helena Laboratories system to be especially well suited to the rapid analysis of large sample sizes). Furthermore, definition on such gels is often superior to starch gels, and certainly superior to the rather poor definition of some of the electropherograms presented by Pasteur *et al.*

In the preface, the authors write (in 1986) that no book dealing with all the techniques presented exists in English or French. However, in 1986, Richardson, Baverstock and Adams authored a rather similar work, entitled *Allozyme Electrophoresis* (Academic Press). This book is twice as long and far more comprehensive than *Practical Isozyme Genetics*, especially when it comes to data analysis. It does have the disadvantage of concentrating almost exclusively on cellulose acetate electrophoresis, yet at more or less the same price as *Practical Isozyme Genetics* would be my choice of the two. Nonetheless, electrophoresis laboratories will still find much of use in *Practical Isozyme Genetics*, especially if the errors are corrected in a second printing.

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Yeast Biotechnology. Edited by D. R. BERRY, I. RUSSELL and G. G. STEWART. London: Allen and Unwin. 1987. 512 pages. £60.00. ISBN 0 04 574042 9.

With the current surge of interest in research on yeast, both as a model eukaryotic microorganism and as an industrially useful organism, there has come a similar increase in new books relating to the biology and technology of yeasts. This volume on Yeast Biotechnology sets out to provide an insight into five areas fundamental to yeast biotechnological processes by way of contributions from experts in the field.

In many respects the book succeeds in its objectives, especially in the more traditional areas of growth of yeast and yeast nutrition, product formation and downstream processing. Some of these aspects have been covered in as much, or more, detail in other volumes such as the Cold Spring Harbor set of two on the *Molecular Biology of the Yeast Saccharomyces* and the Rose & Harrison multivolume treatise on *The Yeasts* although the chapter by Wiseman and his colleages on downstream processing was notable for its treatment of the problem of yeast disruption.

For the geneticist, particularly one interested in the recent developments in recombinant technology, the book is a little disappointing. This is not a criticism of those contributions that appear on classical and recombinant techniques, more on the absence from the volume of more detailed discussion of the extent to which yeast can and has been applied in the production of heterologous proteins and vaccines. The chapters

on killer systems, and expression and secretion of foreign polypeptides are very useful, but are not sufficient to provide the balance between novel processes based on recombinant technology and more traditional processes.

Despite this criticism the book is sure to find its way onto the shelves of libraries serving biotechnology companies, and academic departments with an interest in yeast technology. The price (£60.00) makes it an expensive outlay, and this may restrict its appeal to those more directly concerned with yeast research.

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Oncogenes and Growth Control. Edited by Patricia Kahn and Thomas Graf. Berlin, London, New York: Springer Verlag. 1988. xxiii + 369 pages. Soft cover DM59. ISBN 3 540 18760 X.

The first (hard copy) edition of this set of mini-reviews was highly praised by Peter Ford in *Genetical Research* **50**, 82–83, 1987, but he made the proviso that the hard cover price of DM148 put it out of reach of many who would want to have a copy of their own. We now welcome a soft-cover printing. Although it is no longer quite so up-to-date, readers may want to buy a copy at the cheaper price of DM59.

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