Haemoglobin, Isoenzymes and Tissue Differentiation

by C. J. Masters and R. S. Holmes
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This book leaves one with an overriding impression of verbosity and carelessness. A full list of errors is beyond the scope of this review; figures are frequently included (e.g. chapter 6) which are not cited in the text. This might be overlooked if the legends were self-explanatory, but unfortunately this is not the case. The text is at times annoyingly obtuse and sometimes titillating. For example, there seems little point in referring to a 'new and ingenious approach' (p. 225) if the topic is not then discussed fully.

The treatment is patchy and the authors appear to be unsure of their material in some sections of the book. This is particularly obvious in the chapter entitled 'Haemoglobin synthesis and ontogeny' and is reinforced by the use of figures (4.6, 4.7 and 4.8), which, presumably included to illustrate the text, patently do not. An earlier section -- 'Physiological rationale for haemoglobin multiplicity' is also something of a mystery since, apart from a standard textbook treatment of oxygen binding curves, contains little else except the implied suggestion that it might be advantageous to be heterozygous for the haemoglobin-S gene!

The authors appear to be on firmer ground in the section on isoenzymes and phylogeny, with a detailed account of the relationships which exist between the various forms of lactate dehydrogenase. For those unfamiliar with the field, however, the inclusion of t various 'esterase' systems will probably only add to their confusion. The treatment is frequently naive; c one justify an interspecies relationship for an enzym solely on the basis of identical electrophoretic mobil and would one really expect the histidine content of LDH-A_4 from reptiles to be intermediate between th of birds and amphibians?

The same uncritical approach is apparent in the se on ontogeny, which includes a rehash of so-called 'pioneering' attempts to read some significance into changes in isoenzyme patterns during development.

The book leaves many basic questions about isoenzymes unasked – do hybrid enzymes have physiological significance, are the properties of subu altered by association in heteropolymers and, if so, what are the consequences for the genetic control of their synthesis? Some of the isoenzyme systems stud by Harris and his school at the Galton Laboratory cc also have been profitably included; that the authors familiar with this work is revealed by a careful study chapter 4.

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