

## Book Reviews

**Gene structure and expression.** John D. Hawkins. Cambridge University Press, Cambridge. 1985. Pp. xii + 173. Price £20.00 HB; £7.95 PB.

Molecular biological tomes, it would seem, are appearing at an ever increasing rate nowadays. I am thinking not just of the plethora of practical-orientated manuals that are currently available but also of university texts. Of course, in the long term, this can only be a good sign: a pointer, if you wish, of the rapid expansion in the research in this area. In the short term, however, we are subjected to a flood of monographs purporting to serve a role. I am against such unnecessary excesses as a more conscientious approach by publishing houses would benefit both the reading public and authors alike. At the present, books are sold at a price that libraries let alone the public can hardly afford.

The reason for the above diatribe is that *Gene Structure and Expression* does not, as far as I am concerned, serve a useful role.

The thirteen chapters of *Gene Structure and Expression* (173 pages inclusive of index) can be divided up into four main parts. The first three sections (each containing two chapters) introduce nucleic acids, recombinant DNA technology, and prokaryotic gene organisation and its control. The fourth and largest part (seven chapters *in toto*) is concerned with eukaryotic systems: gene organisation and expression; repeated sequences and oncogenesis, haemoglobin, immune system proteins; hormone genes; the mitochondrial genome; and, finally, control and plasticity of the genome.

*Gene Structure and Expression* professes to be “designed as a text book for honours students in the fields of genetics, biochemistry and microbiology, particularly those followed by medical students” (I quote from the publisher’s blurb). To my mind, it would not be suitable for these courses. First because the depth is too shallow to be used by the honours students mentioned and, second, because medical students can get a large part of the material included in this short monograph from such *magnum opus* as *Molecular Biology of the Cell* (Alberts *et al.*).

In short, *Gene Structure and Expression* attempts to cover too much in too short a space.

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There is no doubt that this slim volume is packed from beginning to end with facts—hardly a sentence is wasted. Even by the fifth sentence of the book we are deeply immersed in DNA biochemistry; “One end of a DNA molecule has a phosphoryl radical on the C-5’ of its terminal nucleotide, while the other end possesses a free —OH on C-3’ of its nucleotide” and that’s after explaining Avery’s work (what about poor Macleod and McCarty!) on transforming principle, the four nucleotides required to construct DNA, the way in which the nucleotides are joined and the use of their initials for sequence description. So there’s no paying only half attention when you read this book because the pace never slackens. There are, when necessary, well drawn but simple figures and some very useful tables to illustrate the textual material.

There are thirteen chapters in the book: DNA; Ribonucleic acid (RNA?); Methodology; Vectors used in work with recombinant DNA; Prokaryotic gene organisation and expression; The operon concept; Eukaryotic gene organisation and expression; Repeated sequences and oncogenesis; Haemoglobin; Proteins of the immune system; Hormone genes; The mitochondrial genome, and The control and plasticity of the genome. This may seem an arbitrary choice of topics yet we are disarmed by the author who in his introduction says that this is certainly the case and reflects his own interests and expertise. The feeling I got as I read the book was that each chapter is a very competent, though terse, description of the subject as might be required by a student to complement a lecture on that topic but that the relationship between the topics was by no means clear. For example the chapter on Methodology was justified because “proper appreciation should lead to a better understanding of the work that has been done” but while the chapter was interesting in its own right the description of other topics seldom discussed the methodology used to reach certain conclusions.

Who would find this book useful? I would expect it to be bought by second or third year undergraduates studying genetics or molecular biology and perhaps by postgraduates needing an introduction to gene expression in mammals. In this context the recommended reading list would be very useful indeed and university teachers could well use the topics and recom-