

The present volume has little to do with either of these categories. It contains a selection of the approximately 500 contributions to the 15th International Leukocyte Culture Conference held in December 1982. This series of conferences has proved remarkably successful since its inception in 1964 and the scope has broadened to encompass a large part of cellular immunology. Part of the 1982 conference was organized into six symposia which, in the words of the Preface, were designed to provide overviews in those areas in which the most rapid changes have been occurring in recent years. With that in mind, 'outstanding investigators' in each of the chosen fields were invited to speak. The scene was set, therefore, for the production of a useful Category 2 volume. Instead we have, loosely organized into twelve sections, a collection of about 120 mini-papers, each of which describes a small goblet of original work. Unquestionably, some of this work is of high quality. Unquestionably, too, determined browsing will uncover for almost everyone some tit-bits of interesting information, though whether this will be a recompense proportional to the time spent is more doubtful. But as a whole this book, like others of its ilk, is superfluous. Much of the information in it was either superseded or had appeared in the open literature before publication. All the abstracts had already been published elsewhere, and many of the papers are little more than abstracts themselves. It is a nuisance because it represents what is in effect restricted publication. Such books are too expensive for most individuals to consider buying. Many libraries, rightly in my view, regard them as a misuse of limited resources and prefer to buy journals. Yet they cannot be completely ignored; since they exist, people feel obliged to scan them and occasionally authors even refer to papers in them. The amount of scientists', editors' and publishers' time that has gone into the preparation of this volume is doubtless enormous and one wonders who benefits from it all.

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Hemoglobin. By RICHARD E. DICKERSON and IRVING GEIS. London: Addison-Wesley. £22.45. ISBN 0 8053 2411 9.

No family of proteins has been so thoroughly studied as the globins. A pin stuck into any issue of any biochemical journal published in the last 30 years would probably pass through at least one paper on the subject. With the rise of recombinant DNA technology, this intense interest has passed on also to the structure and organization of the globin genes.

It was initially the easy availability of the genes and their products which made them the targets for so much research, but this abundance largely reflects the biological importance of the globin system, so the attention has been well merited. There is no system in which the general programme of molecular biology – to explain biological behaviour on the basis of molecular structure – has come so close to completion.

Presented with this enormous mass of material it is not surprising that Dickerson and Geis decided in preparing a new edition of their well-known 'Structure and Action of Proteins' that the subject had outgrown a single chapter and merited a book of its own.

The main part of the book is in three chapters. The first is an account of the structure and function of myoglobin and haemoglobin, leading up to the Perutz mechanism and its more recent refinements and experimental tests. This account is extensively illustrated largely with coloured drawings in the familiar and very attractive Geis style. This chapter will be of great value to teachers of undergraduate courses; previously the best simple account of the Perutz mechanism was an article (also by Dickerson) which is now more than ten years old.

The final chapter in the book is concerned with human haemoglobin disorders – thalassaemias, sickle-cell disease, and a selection of the vast range of mutant haemoglobins.

This material will also be useful to teachers who wish to introduce students to the practical significance of haemoglobin studies. The viewpoint, however, is very much that of the protein chemist rather than the clinician – sickle-cell *anaemia* is not now the commonly used term, for example, because *anaemia* is not the most significant feature of the disease. This disease remains a standing reproach to the proponents of a rational approach to drug design. One could hardly ask for a clearer understanding of the structures of the molecules involved, or of their pathological properties, but despite considerable research effort no effective and safe treatment has been found.

Sandwiched between these two chapters is a third, on globin evolution. This chapter is mainly concerned with protein sequences, and the deduction and interpretation of phylogenies based on the differences between them.

Overall the treatment is very successful, but there are several serious disappointments. The first is with the first chapter, which is meant to provide a quick introduction to protein structures in general. This material is inadequate and out of date. Indeed the text and pictures draw very heavily on the authors' earlier collaboration. This is surprisingly true of the early parts of the second chapter as well; I cannot resist pointing out how much cheaper one could buy these same words and pictures 14 years ago.

The final disappointment covers a much wider area than the present book. The drawing style developed by Geis, like some of the computer drawing programs used by others, produces extremely clear images, which are often beautiful. However, I always find it very hard to get any great feeling for the mechanism of the function of macromolecules from drawings of this kind, and I am sure this is not merely a personal handicap. There is a challenge to illustrators to devise diagrams which might be less superficially representational but which could give a better understanding to the student of the statics and dynamics of real proteins.

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The Cartoon Guide to Genetics. By LARRY GONICK and MARK WHEELIS. London: Harper and Row. £3.50 (paperback). ISBN 0 L6 460416 0

This book provides a historical treatment of the broad discipline of genetics, commencing with prehistoric and biblical times, and extending to the applications of recombinant DNA technology. On the way there is good coverage of Mendel's laws, linkage, the genetic code, and synthesis of informational macromolecules. The contributions of a number of major and a few minor historical figures are outlined and the interaction of science and society touched upon. The content and level of coverage is appropriate to first- or second-year undergraduates at a British university and if all my own second-year biology students knew the contents of this book I would be happy.

However, as the title indicates, this is not a serious book. It is a series of strip cartoons with captions, speech in balloons, thoughts in bubbles, 'snap', 'ugh' and 'gulp'. Who would dare to recommend such a book to students? One fears that they might never take us or our subject seriously afterwards. I, for one, am prepared to take that risk. The science is sound, there is a brief but balanced bibliography and a good index. My only complaint is that T. H. Morgan gets no mention, though the treatment of mapping and recombination is otherwise good.

I am not sure how effective the cartoon style might be in communicating the material to students in the absence of further reading or instruction, but for revision the light touch of this book might well be very effective.

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