Molecular Recognition Mechanisms; Edited by Michel Delaage; VCH Publishers: Weinheim, 1991: viii + 285 pages. £65.00, DM 182.00.

This book, originally published as Méchanisms de reconnaisance moléculaire, is a collection of material from authors working in French laboratories, and covers a wide range of topics which fall under the umbrella of Molecular Recognition. Such topics include, molecular modelling of protein and peptide structure, molecular pharmacology, immunology, protein engineering, artificial regulation of gene expression, lectins and membrane transport. Obviously the range of material covered is enormous, and that is where the book runs into difficulties. The book could have been written to appeal to a wide audience, giving an over-view of the various specialities within this field. Certainly some of the chapters have been written in this way with an introduction to the topic, which might have come from a standard text book, followed by anecdotal over-view of some research project in that area. These chapters would certainly broaden the outlook of an enthusiastic under-graduate or post-graduate reader. Alternatively the book could have been compiled to appeal to a smaller, more specialist audience; in which case the chapters would deal mainly with the author's work. Indeed the book contains numerous chapters of this type. The individual authors, in the main, have done an excellent job. The material is well presented and illustrated, but the inconsistency of approach results in a rather confusing book. It is not clear to me what type of readership this book has been put together for. Given the editors decision to include a wide range of topics in the book it is puzzling to find 3 chapters on the reni n-angiotensin system, each with a similar introduction although approaching the topic from a slightly different angle. Also, in such a fast moving field, it is disappointing to find that the most recent references are ca. 1986, and certain sections of the book are seriously dated. For example the chapter on membrane transport contains no mention of the sequences of the cation transporters which were becoming available at the time and set the stage for the expansion in the study of these transporters.

Despite these reservations it has to be said that the book does bring together some fascinating material which would encourage the reader at, say, the post-graduate level, to broaden his or her appreciation of molecular interactions. However, given the different levels at which the various chapters are pitched, its appeal will largely be dictated by the particular strengths and weaknesses of the individual reader.

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Nucleic Acids and Molecular Biology, Volume 5; Edited by F. Eckstein and D.M.J. Lilley; Springer Verlag: Berlin, Heidelberg, 1991; xi + 251 pages; DM 198.00. ISBN 3-540-53121-1.

This is the fifth volume in this series, and continues the tradition of presenting stimulating and topical reviews that was set by the earlier volumes. The Introduction indicates that the editors put considerable thought into chosing the topics to be covered; and, for the most part, the chapters tell a cohesive story of structures of DNA and DNA binding proteins. There is some light relief from the more physical studies in chapters 4–6 that deal with DNA repair and replication; and the volume ends with chapters describing the topological problems encountered by RNA polymerase during transcription, on the 'Regulation of HIV-1 Gene Expression' and on 'Transgenic Technology' that whet the appetite for future volumes.

This is not a book for undergraduates, except perhaps those in their final year. To follow the story requires a considerable understanding of the diverse, physical techniques that are being used to study problems of modern molecular biology. The first three chapters deal with the structure of particular DNA molecules in isolation, though there is a 'token attempt to relate these structures to the biological situation. Chapter One is an eye opener a to the variety of unusual 'Structures that Telomeric DNA' may assume; and Chapter Two considers the structure of 'Parallel Stranded DNA'. This form of DNA is remarkably stable and I was left wondering why it is not commonly found in cells. Chapter Three on 'Scanning Tunneling Microscopy of Nucleic Acids' is surprisingly easy to understand and provides an honest appraisal of the state of the art at the time it was written (early 1991).

The unfortunate lag between the writing of a review and its availability to the reader is impossible to avoid but detracts slightly from the usefulness of the chapter on 'Repair of UV-Damaged DNA' that is otherwise helpful and straightforward; as is the interesting chapter on 'Mismatch Repair in Eukaryotic Systems'.

Even though they present a facinating comparison of various origin structures, Baker and Kornberg have struggled to condense several lives' work into the 14 pages of the sixth chapter entitled 'Initiation of Chromosomal Replication' with the result that much is glossed over. This contrasts strongly with the excellent and detailed summary of work on the Klenow fragment of 'DNA Polymerase I' that has led to some understanding of structure function relationships.

Lehming and co-workers report on in vitro mutagenesis studies on the *lac* repressor/operator system. Although one might expect this to be similar to λ, it is not, even though both involve a similar base recognition sequence; and an attempt is made to formulate 'Rules for Protein DNA Recognition'. The 'DNA-Binding Motif, SPKK' is characteristic of DNA binding proteins and, in a stimulating article, Suzuki describes how, depending on its state of phosphorylation, this grouping promotes or inhibits sliding of proteins along the minor groove.

One takes for granted the fact that the '*Eco*RI Endonuclease' does not cleave methylated DNA, but it must show even greater discrimination against the very large number of unmethylated sequences that differ from its normal target by a single base change. Although the crystal structure of the DNA-enzyme