

effect of shape (e.g. bent, forked, cruciform and supercoiled DNA) on electrophoretic separation.

The production standard is very good and the layout of the book follows in the excellent tradition of the Practical Approach Series. One difficulty is the plethora of methods described for doing the same thing. Each author has his own way of preparing and running, say, agarose gels and some editorial control or comment on this would have been appreciated.

The two initial chapters on the electrophoresis of RNA and DNA provide the basic technology which would appear to have remained essentially unchanged since the first edition. This is rather disappointing as there is a failure to present the current practice, relying rather on a description of the home-made apparatus which was common ten years ago. Other

omissions include the lack of serious mention in Chapter 1 of the need for rigorous exclusion of RNase action and the possible denaturing effect that drying can have on DNA is not mentioned until the excellent Chapter 7 which considers the analysis of sequence-specific DNA-binding proteins.

In this age of safety consciousness, I would have liked to see instructions for disposal of ethidium bromide in dilute and concentrated solutions and in gels but, nevertheless, the book is a source of many valuable tips. For someone searching for markers of a particular size, there is a useful appendix listing restriction enzyme sites in various plasmids and viral DNAs but it does not point out that the action of some of the restriction enzymes may be blocked by methylation.

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Mechanisms of Cooperativity and Allosteric Regulation in Proteins;

By M. Perutz;

Cambridge University Press; Cambridge, 1990; x + 101 pages; £ 11.95, \$ 17.95

1988 and 1989 have been 'anni mirabiles': we have seen with admiration and great interest how the loosening of inhibition in one piece of a puzzle spreads a boosting of (re)activity into the neighbouring ones — a kind of 'domino effect'. Contrary to what some readers may think, I am not referring to political events, but to the nearly explosive increase in our knowledge on the molecular processes underlying the allosteric activation and/or inhibition in a number of key enzymes and other proteins.

Perutz' book is most timely in describing in an easily accessible form the recent work from various groups on hemoglobin, other O₂-binding proteins, on glycogen phosphorylase, phosphofructokinase, aspartate transcarbamylase and other proteins. Anyone acquainted with Perutz' previous writings will expect a lucid, critical and up to date description and discussion of the latest experimental observations and concepts (some still unpublished at the time the book was written). The expectation is fulfilled.

It makes fascinating reading to follow in detail how an almost irrelevant chemical event propagates and amplifies into a subtle, yet fundamental biochemical function. Perutz takes us through this labyrinth, which becomes as beautiful as the garden of Eden. Ariadne's thread is the model of Monod,

Wyman and Changeux, plus that of Koshland, Nemethy and Filmer, plus, of course, Perutz' own epochal work. This book clearly illustrates, also by way of excellent black and white and colour pictures, the turning points between model and 'the real thing'. It is a must for the specialists in the field, but also, and perhaps more so, for those among us who are not.

Perutz, however, does not only give an account of the most recent advances in the field. Those among us (the present reviewer included) who have a keen interest in the history of our fascinating science will also appreciate finding here the mention of the very first phenomenon which indicated the change in conformation accompanying the reaction of deoxyhaemoglobin to oxyhaemoglobin. Felix Haurowitz, who had had to flee from Nazi Germany and was working in Prague at that time and moved to the University of Istanbul in 1939, submitted his paper in 1938 to the Hoppe Seyler's Zeitschrift für physiologische Chemie. The Editors, K. Thomas and F. Knoop, ignored the prohibition against publishing papers from Jewish authors — a felony for which Knoop had to pay by being imprisoned. The present reviewer wishes to all readers that history will not repeat itself.

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