BOOK REVIEWS

Quantitative aspects of allosteric enzymes

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Writing a book is a demanding task while reviewing them carries a lot of responsibility. It is all too easy to condemn many years of effort by a dedicated author on the basis of one's own personal prejudices. Would I have treated the subject the same way is what a reviewer tends to ask. For this reason, I rarely accept the task of reviewing books. On this occasion, however, I was attracted by the title of the book and by the author's research work in the area.

This book is mainly concerned with the mathematical descriptions of allosteric control but in spite of the chapter entitled 'Molecular models for cooperativity and allosteric interactions', it is not concerned with 'molecules' as such. The book deals in detail with cooperativity, subunit interactions and the various allosteric models. The appropriate equations are derived and on the whole the subject is covered to make the monograph useful to those who wish to treat their experimental data in terms of particular mathematical expressions.

I was disappointed by the lack of any attempt to relate the quantitative formalism to real structures. We now know a great deal about oligomeric assemblies and even about the molecular organization of some regulatory enzymes. The debate about the best model to describe cooperativity has been most valuable in generating new experiments for the study of oligomeric systems. But in a sense, we have progressed from squares and circles to atomic coordinates. Clearly, however, the author's intentions do not coincide with my own prejudices. I found only a few errors in the equations, but with so many this is not surprising, and in any case they are generally fairly obvious. On the whole the text is clear and informative.

It is the topicality of the book that worried me. So for my own amusement, and possibly in unfairness to the author, I analysed the 'references distribution function'. The function peaks in 1973 and is non-Gaussian with the 1973–78 part being 0.063 g of graph paper while pre-1973 0.216 g, >80% of the latter being 1966–73. Obviously with 61 references this is not meant to be serious statistics, but the book was published in 1978. There can be any number of conclusions that readers of this monograph might draw from these observations.

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