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BOOK REVIEW

DOBSON, A. J.: AN INTRODUCTION TO STATISTICAL MODELLING. — Chapman and Hall, London — New York 1983. 125 pp. Pb £ 5.95, Hc £ 10.50.

Mathematical modelling became very fashionable in biological research some time ago with various results. At present its role is, maybe, already clear without uncritical admiration of everything printed by a computer printer accompanied by complicated unclear equations, and without equally uncritical refusal of what forces biologists to learn formulating problems quite exactly and understanding symbolic expressions and mathematical abstractions. Although biological disciplines would never become a computer business only and biologist would never, I hope, reduce his experimental tools to a sheet of paper, a big pencil and huge piece of erasing rubber or to a personal computer, the mathematical methods and mathematical modelling surely will not lose their place in biology any more.

On the whole, two kinds of models are used: the ones trying to mathematically describe processes and principles involved, and the others describing the subject from outside, irrespective of the ultrastructure of the matter studied which is the case of models treated in this book. After the word "introduction" in the title of this book the reader expects it to help those unexperienced in understanding the subject — the modelling. From another word, "statistical", he will suppose the models to be constructed using statistical methods. As another interesting feature, this book is rather slim, which makes the decision on reading this book easy. In fact, the author deals with statistical evaluation of observed data and differs from others in laying emphasis on the estimation of unknown parameters and testing of hypotheses. You can find brief descriptions of *e.g.* statistical distributions, regressions, analyses of variance and covariance, contingency tables analysis. All descriptions are made not for giving practical procedure of calculating statistics, but to show deeper internal (mathematical) relations of various statistical methods, which is after all stated in the Introduction: "This book is designed to introduce the reader to the ideas of statistical modelling and to use these ideas to demonstrate the unity among many commonly used statistical techniques."

Thus any reader attracted by a proposed chance to get quick and simple instructions for the use of statistical models and for evaluation of observed data will not be probably satisfied. In contrast to the expectation evoked by the above-mentioned features of the book, knowledge of common statistical treatments, as well as of matrix algebra is assumed. This book hardly can be recommended to novices in statistics but reading it is worth to any routine user of statistical functions of calculators or computer program packs who wishes to understand better procedures involved and strengthen his background in statistics.

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