

complexity of biotic interactions of all kinds. It is very difficult to win quantitative evidence about the dynamic structure of any natural population of animals. Having read this book we can only hope that devoted ornithologists will go forth with renewed vigour, and a long overdue awareness of genetics, to more analytical investigations of their favourite species.

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Journal Publishing: Principles and Practice. By GILLIAN PAGE, ROBERT CAMPBELL and JACK MEADOWS. London: Butterworths, 1987. 184 pages. Hardback £27.00. ISBN 0 408 10716 2.

Most scientists are much involved with journals, but only as readers, authors and (often unwillingly) as referees. So they pay little attention to the complex problems of producing, publishing and selling the papers which carry their articles. New journals are started at intervals, often with the aim of skimming the cream from the latest research area; and if they are very successful they can claim a rejection rate of 50, 70 or even 90% of submitted papers. The frequency at which new journals have been founded in recent years in the linked fields of molecular and developmental biology, genetics and biotechnology, not to mention journals with the word 'Evolution' in the title, gives one the strong impression of an ever-increasing rate of scientific progress consequent upon an ever-rising number of researchers, with the visible threat that we shall shortly be overwhelmed by the flow of new knowledge (this has long been an expressed fear).

An analysis in depth of these apparent trends would be of great interest, but that is not, of course, the aim of the book under review. The authors include a past and a present Director of Journal Publications in a major publishing house (Cambridge University Press and Blackwell Scientific), and an expert on Library and Information Studies. Their aim is to fill in the commercial and organizational background involving editing, production, marketing, sales and distribution; to advise those rash enough to want to start a new journal on how to be successful, and also on how to set about putting an ailing journal on its feet again. Legal, financial and bibliographical aspects get attention; and appendices discuss the use of micro-computers, list associations of editors and publishers of learned journals, give useful sources of mailing lists, and name some subscription agents and consolidators for bulk air distribution of journals.

A particularly interesting chapter discusses alternatives to the traditional journal, which may be paraphrased as 'In what form shall we be getting our scientific information in the year 2000?' The book is a little cautious on this question, since new methods of information propagation are developing rapidly. One

of the options tried is synopsis journals, like the *Journal of Chemical Research*: a two-page synopsis of each article is published, and readers can order any complete article in microfiche or miniprint. One problem here is that statements in the synopsis will be much more widely read than will the complete article, and may well become unjustifiably accepted in the literature. This method has not yet, apparently, made much headway.

An alternative is some form of electronic publishing, such as is used for gene and protein sequences. These are very well designed, because of their simple form, for on-line transmission from Gene Bank to customer, and could even be transmitted in morse code. Electronic publishing/transmission of scientific papers, however, raises a number of obvious problems. (1) Do they need to be refereed, revised and edited before going out on-line? If not, the reader will find literature searches extremely frustrating. (2) Transfer and printing of electronic messages is less than perfect, and cannot handle illustrations effectively, while text may become garbled by overcrowding of the transmission line. (3) Only a small proportion of journal readers will have ready (or any) access to electronic outlets. (4) The cost of such machinery and the transfer costs of large papers will be an important factor.

DTP is becoming almost as fashionable an acronym as DNA, and most of us know it stands for Desk Top Publishing – a phrase which is more impressive than the systems it represents. One of the DTP systems now getting so much advertising space would allow us to print small copy numbers of our own rejected papers and send them to friends, but they would have to be quoted as 'private communication from X' in proper journals, and would not get the author listed in the Citation Index.

I suspect that we are all very ignorant of the possibilities of these new methods of propagating knowledge, and I would hesitate to assert that they will not replace the traditional journal in the next 10 years. It is certainly much easier to study critically a well-printed journal paper than a VDU text, but perhaps we shall end up with synopses on VDU and the full papers we ask for arriving on disk. By that time we shall all be able to bombard authors with electronic messages asking 'Is that blob half way up lane 5 in Fig. 3 a DNA band or a figment of my printer's imagination?'

This is a very stimulating book, and I hope that the next edition will go much more deeply into all aspects of electronic and computer-assisted publishing, on which we really need to be instructed and brought up to date. We can then make up our minds what we shall have to save up for in the mid-1990s.

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