

CHARTING A COURSE THROUGH TURBULENCE: THE PUBLISHERS' VISION OF 21ST CENTURY JOURNAL LITERATURE

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Whenever two or more journal publishers gather together, at a conference or in the bar, talk will immediately turn to changes in the business: electronic publishing initiatives; document delivery; library consortia sharing a single subscription, where once there were half a dozen; quality on the Internet; journal subscription pricing, and the number of years that now elapse before a new journal launch turns out to be profitable.

These discussion points comprise the 'serials publishing crisis'. Yet these elements of change are paralleled with strong factors of continuity. All good academic publishers seek to serve both the producers and consumers of their products: the academic community itself. They turn the material output of academics into value added commodities which their academic peers will wish to have readily available. The publisher will gain kudos and profit by applying high craft and professional skills, and successful products will obtain both tangible and intangible rewards for editors and for authors. The relationship remains truly a dependant partnership where both parties gain.

In order to understand the future, we need to review the past. For some 30 years after the end of the Second World War, scholarship blossomed. Scientific research expanded dramatically; the journal literature in which it was published grew more voluminous. Library budgets kept pace with this dramatic growth in information and it was understood that library size and completeness was important. There was assumed to be a strong correlation between academic excellence and library size.

1975 appears to have been the watershed. During the following 15 years, data from the United States indicates that funding for research doubled. The output of articles also doubled, but library expenditure increased by only 40%. During roughly the same period, academic libraries' expenditure as a proportion of overall university expenditure has declined. In the UK it has declined from 4% in 1980 to 2.9% today. This pattern has been repeated in most developed countries. Today, the problem is two-fold:

1. Library budgets have reduced in real terms, while subscription prices have been rising faster than inflation, and the number of research journals published has been growing rapidly. The archiving function, which libraries have traditionally assumed by collecting comprehensively and retaining all works indefinitely, is clearly under threat.
2. The relentless rise in the number of research papers seeking publication is causing information overload.

Technology has given us the opportunity to handle masses of information with speed and economy, for which the printed word may well be inadequate. Nevertheless, it seems to me that the driving force, behind librarians seeking to use the Internet as a publishing medium, is economics rather than the demands of their patrons. Most librarians expect information delivered electronically to be cheaper. As the publisher does not need to print on paper, they reason that publishing costs must be reduced. This however ignores the heavy capital investment in computer equipment that needs to be renewed every two or three years, and the skill- and labour-intensive nature of preparing material for these new media.

Many publishers, both by experiment in the scholarly community and by utilising the experience of those in the mass market, know what can be done to produce journal literature electronically. They know that electronic publishing lends itself to modelling, moving graphics and manipulating research data tables. However, they cannot see how publishing such products can be priced at a level that will recover the cost of peer review and of the multi-media and interactive features, that will be needed to complement the article text and exploit the unique capacity of the medium. Some publishers have already said that the electronic edition will be more expensive than its printed equivalent. In other words, two stakeholders in the information community have different ideas on pricing. Both publishers and librarians are caught in the middle by different perceptions of the economics of print and of the new media.

Nevertheless, we all serve the individual academic researcher: our authors and our readers, who are really the same people. They are, in my experience, oddly ambivalent about changing the

present system of research publishing based on the printed journal. For many years, tenure, promotion and the grant of research monies has depended on the applicant's publishing record. There is currently a huge demand for the establishment of new journals, driven by the current Research Assessment Exercise in the UK. There is little demand for them to be published only as electronic journals. The printed word is still seen as being the authoritative medium and format for the publication of peer reviewed research. As publishers, we have to respond positively and sensitively to the ambitions and concerns of researchers, who need to publish, whilst balancing these with librarians' need for information in a format and at a price that can be afforded.

What is the value that publishers add to scholarly communication? The scholarly publishing tradition has accumulated procedures and policies that have become part of the values inherent in the research publishing process. Central features include careful and deliberative peer review, and the permanence of published papers as part of the library of all scholarly and research literature. This tradition has two features:

1. A journal is created as an 'imprint'. Its editor and editorial board members are appointed, either by the publisher or by the society that owns the journal. The authority of the journal, as well as its scope and content, depend on these appointments. They are of crucial importance and are a matter of continual discussion between the publisher, the society and the editor him/herself.
2. A journal paper itself passes through four processes: preparation; review and revision; publication, and archiving and indexing. Review and revision, and publication are the phases undertaken or managed by the publisher. During these phases, the publisher expects the author to submit new research and scholarship that does not overlap significantly with previous submissions by that or any other author. The publisher expects the author not to distribute copies publicly until the paper has actually been published, and to give full credit to others who have contributed in any way to

the paper. The soundness, professionalism and uniqueness of the published work is established in this way.

Each journal seeks to gain prestige in its discipline by publishing only the most significant and well-grounded papers. Authors gain prestige in their community by having their works published in prestigious journals. This 'quality imperative' is driving a range of rankings. The best known are the citation impact analyses produced by the Institute for Scientific Information (ISI) but there are others. The Dutch Social Science Research Council, for example, has produced a five point ranking of journal quality for 1200 journals, of which only 30 or so achieve the top rank. These gradings establish a particular journal as the most appropriate to turn to for particular types of research, topics or issues. It is every publisher's aim to make his journal one of 'first resort' for particular papers. The higher the grading, the greater its value to the author.

Publishers are already using technology to prepare journals. The hot metal typesetter disappeared 15 to 20 years ago. Computerised typesetting and page layout software is commonplace. It has been available on PCs for the last five years. Journal articles are frequently submitted on disk; the publisher applies skills in quality management, presentation and layout to material already in machine-readable form. The printed product may look traditional, but it has been output from a system that our forebears would find unrecognisable. Moreover, that process creates datafiles from which output can be made in other media.

My view as a publisher is that the paper-based journal will survive but it will no longer have the field to itself. Electronic products, particularly material delivered over the Internet, will become more important. Those of us who want to prosper as publishers in the 21st century must be seen to continue to add value to the literature. In particular, we need to ensure that journal literature reaches the readers for whom it is intended. Most journals are written by experts for other experts. However, authors are growing increasingly dissatisfied with delays in the process, often taking between six and twelve months to complete the review-revise phase, and

another twelve months until actual publication. If these delays can be resolved by electronic distribution of information, so much to the good.

Electronic media have opened up a whole new range of possibilities for authors and readers of research literature. In exploiting the media, we must always remember that the author is the source of important and authoritative information. That information must be easy to locate. It must not be lost in the noise of the Internet. Authors will continue to look to publishers to provide an imprint, or name, certifying quality of work, to locate readers, and to archive accepted works. The publisher protects authors' interests by placing the imprint on the work so that readers can distinguish it from the mass of informal information and gossip on the Internet, by distributing the work widely and by making sure that it continues to be available from recognisable sources, wherever the reader may be.

As we move into the 21st century, I foresee a world of scholarly and research publishing where definitive versions of works will be stored not only in print but on databases offering browsing, extracting and re-packaging services, with simple billing and money collection mechanisms. Such services will collect fees from those who have not subscribed to the database. Databases will be maintained by publishers as a service both to authors and readers. There will be links between different works, serving both as citations and as order points for copies. 'Publication' will mean that a publisher has declared the author's work acceptable after a review process. The copy of the paper placed in the publisher's database will be treated as the definitive copy of the work. The 'publisher' will be seen less as a producer of print products, but than as a custodian of intellectual property distributed in that medium that best suits the nature of the individual work and the needs of the readership.

'Journals' will become interest groups or clubs, in which a paper will be placed; it may or may not be formatted into pages and issues. Libraries or individuals may purchase a subscription to a printed journal, or buy a right of access to a database, on which that journal is held. They may purchase a site licence, with usage rights tailored to their circumstances and requirements, or

simply shop on an ad hoc basis for documents, as the need arises. They may register their profiles, to be notified when new items matching those profiles have been posted. Copies may be supplied on demand in print, or electronically to a PC, or by fax.

There is much concern and uncertainty over the applicability of copyright in relation to these new publishing models. I believe that our understanding of the implications of copyright would be made easier, if we adopt the following basic principles:

- publishers are entitled, as value added providers, to a reasonable remuneration for the use of their material;
- researchers and scholars, and the libraries that serve them, should have easy access to information that is, after all, the currency of scholarship and research;
- the concept of fair dealing and equivalent notions in other legal systems need to be re-evaluated so as not to threaten the economic basis of the scholarly communications process.

Any reasonable and successful scholarly publisher must enable authors to communicate with the widest possible relevant audience, must represent authors in disseminating their scholarship and protecting their interests, must ensure that all information they publish meets the required standards for quality, presentation, authority and originality, and must assist readers in locating the materials relevant to their requirements. So the application of copyright must be a balance between the economic interests of all the parties in the community. In the world of on-line publishing and access, transmission of a copyright work through a computer network must be regarded as a form of copying; it has the same effect as sending a photocopy. The recipient

of a copyright work is simply not free to copy it and pass it on without the permission of the publisher, unless already licensed to do so. The definition of 'publication' must, in the future, include electronic availability and distribution from a database.

Copyright law is the best regime that we have at this moment. It provides economic protection. It also provides a mechanism to protect published works from alterations without review and approval by the editor of the journal and by the author. Electronic media provide the means whereby readers can attach comments to an author's work, and authors can respond. These comments must not corrupt or alter the original. Indeed, by posting such comments to a database, their authors are formally attaching those comments to the work as part of a public discussion. These comments themselves should not be altered, or withdrawn, without formal annotation on the database.

The ubiquity of networks, file servers, database hosts, laser printers, document handling and graphic software has transformed our world. The publisher's contribution is to bring an assurance of quality, good presentation and, most important, an orderly infrastructure to research literature. It is true that any individual can offer for dissemination any work at low cost and with great speed, but without the publisher, there will only be so much noise. That great publisher Gordon Graham has drawn an instructive comparison of the publisher with the orchestral conductor. Composers compose, musicians play, but until the conductor raises the baton, there is no performance, no joining of the artists with the listening audience. Although our instruments may become electronic, they must be played in tune, to a recognisable rhythm, and in harmony. As a publisher, I have no fears of the 21st century.