

Under Siege: Journal Publishing in the 1990s

Budget cutbacks are the theme of the '90s, and all aspects of advanced education are under intense pressure from severely reduced federal and provincial funding. The realm of scholarly communication is no exception. At a time of rising production costs, reduced postal subsidies, and subscription cancellations from under-funded university libraries, publishers of scholarly journals are now faced with the outright elimination of funding sources such as the Scientific Publication Grants Program of the Natural Sciences and Engineering Research Council of Canada (NSERC). According to NSERC, the support of scientific journals is a "non-core program" and is therefore being terminated to allow more funding to be directed to research grants. It is difficult to understand how the dissemination of knowledge came to be defined as a non-core program. The goal of ensuring adequate funds for the direct costs of conducting research is certainly laudable. Nevertheless, the loss, through inadequate funding, of scholarly journals as a major forum for scientists to communicate the results of their work has serious consequences for the entire scientific endeavour. There is little point in funding research that will remain unknown to the broader academic community and to Canadian tax-payers who support that community. Such a move could easily result in the research being available only to a privileged few (relatively speaking) through informal networks of communication such as the Internet.

On-line publishing is touted by many as the panacea for the increasing production and distribution costs of paper-based journals. With an electronic journal, articles can be published rapidly and continuously, made immediately accessible at the same time to multiple users, easily searched by key words, and linked to any number of bibliographic databases. While electronic journals are undoubtedly the way of the future, there are still many issues that need to be resolved (e.g., intellectual property rights, operating costs, graphics capability, assuring integrity of the text, subscription monitoring, accessibility) before we abandon the printed journal. The capital expenditure for converting from a paper-based to an on-line journal will be high. Publishers of scholarly journals will still be faced with the traditional editorial tasks of guiding submissions through the processes of peer review and revision, copyediting, and presentation in a standard format. How do we ensure that the final accepted version of the on-line article is the one that is transmitted to readers? Do we limit access, or is an on-line journal available to anyone browsing the Information Superhighway? What do we charge for an on-line journal, and how do we get paid? How do we guide subscribers, as painlessly as possible, through the transition phase from paper-based to electronically transmitted journal? Paper-based copies will still have to be prepared in conjunction with the on-line versions for an extended period, to give readers time to adjust to the new document delivery system. For some readers, this adjustment will be easy; for others, impossible. I, for one, will miss the tactile pleasure of flipping through a newly arrived journal to sample the various offerings at my leisure and away from the tyranny of the computer screen. Before labeling myself as a Luddite, I do think the world of electronic publishing holds many exciting challenges and possibilities for those involved in the field of research dissemination. Our conversion to electronic preparation of the journal has gone extremely well, but it will no doubt be many years before *Arctic* is distributed solely on-line.

The move to on-line publishing may somewhat ease the budgetary pressures on journal support programs and university libraries as more and more new journals are offered directly in the electronic media rather than in print. The proliferation of scholarly journals, which began in the 1960s with the growth in academia and continues today, is due in large part to the "publish or perish" value system which still pervades our academic institutions. Whether this proliferation has hindered or helped the dissemination of knowledge is a matter of debate. It certainly has made the search for relevant information on any one topic much more complex. The cross-referencing and search capabilities of on-line journals should considerably simplify the data-gathering process.

Until such time as the print journal has disappeared, publishers will continue to seek ways to make the production process as efficient and cost-effective as possible, while maintaining the quality and integrity of scholarly journals. By their very nature, scientific journals are fairly specialized, in terms of either geographical or disciplinary coverage, and tend to appeal to a specific audience. Substantial staff time and effort are continually expended to maintain subscriber levels and to gain new readers through direct-mail campaigns, cooperative promotion ventures with other journals, conference displays and advertis-

ing. Fiscally responsible journal management means maintaining subscriber rates that will cover the costs of production and distribution. But we need to look elsewhere to cover the myriad other costs associated with scholarly publishing.

Jesse Vorst, President of the Canadian Association of Learned Journals, has described scientific research and its dissemination as being “in part, what economists call ‘public goods,’ with benefits accruing far beyond the immediate user; it is, therefore, impossible to recover cost on a market-driven basis. ...” Government and society at large accept, for the most part, that the conduct of scientific research, be it in the social, biological or physical sciences, is worthy of financial support. If federal funding agencies are to continue to fulfill their mandate of supporting Canadian scientific research, they must recognize that the sharing of knowledge gained from this research is a vital component of the scientific enterprise, equally worthy of support.

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