The Chronicle of Higher Education
November 7, 2003

A New World of Scholarly Communication

By RICHARD C. ATKINSON

Higher-education leaders invariably have long lists of difficult issues to confront. These days, high on my list is the future of our university libraries. Although libraries form the basic infrastructure of the academic endeavor, I have come face to face with an unhappy fact: University librarians are now being forced to work with faculty members to choose more of the publications they can do without. The ballooning costs of academic publications are preventing faculty members and researchers from gaining access to the world's scholarship and knowledge.

Even in the best of economic times, university libraries cannot hope to keep pace with the 6- to 12-percent annual inflation rate in the price of scholarly journals. And the fiscal environment today is particularly difficult -- states are facing unprecedented budget crises just as expanding faculties and student bodies are increasing the demand for scholarly information. Neither university librarians nor faculty members alone can deal with the challenges of preserving access to scholarly resources. Presidents must become involved and help lead our institutions into a very different world of scholarly communication.

Higher-education leaders should consider several strategies, including:

Developing and supporting new models of scholarly publishing that cut the costs of distributing and retrieving information. Several organizations are experimenting with less-expensive ways to disseminate faculty research. Some of them are already well known, like JSTOR, which digitally archives more than 300 journals in various disciplines, and Stanford University's HighWire, which stores online several hundred journals in biology, physics, and other sciences. Others, like BioMed Central and the Public Library of Science in both biology and medicine, are only just emerging. Although it is too soon to know whether any of those services will significantly reduce the cost of scholarly communication or just shift the burden elsewhere, they deserve our support. We can demonstrate that support financially and by explicitly encouraging faculty members to make use of those models.

At the same time, we must not jeopardize the health or well-being of the scholarly societies and university presses that play so critical a role in academic life. Faculty members should continue to manage their intellectual property and copyright. They should decide which publishing organizations they will review, edit, and write for. When signing a publishing contract, they should determine whether to assign the publisher copyright and whether to seek a nonexclusive right to disseminate their work freely in an electronic form.

As they do so, however, faculty members should recognize and reward colleagues who choose alternative ways to disseminate their research. The rapid emergence of scholarly electronic publishing challenges our traditional methods of assessing professors' work for tenure and promotion purposes. We should take steps to guarantee that our evaluation practices keep pace with the adoption of new communication technologies. At the University of California, for instance, the Academic Senate supports consideration of electronic publications in academic peer review.

Giving faculty members the necessary tools to make their publications more accessible. Universities should shoulder the costs of developing, managing, and publicizing research -- including peer review of scholarly papers -- and build the online capacity to distribute those works worldwide. The costs, though not insignificant, pale in comparison to those that libraries must bear to buy access to our faculty members' publications.

For example, the University of California, through the California Digital Library's eScholarship program, promotes the wide availability of scholarly works in the arts and humanities, as well as in the social, biomedical, and physical sciences. The Massachusetts Institute of Technology's DSpace initiative has similar cross-disciplinary aims. Cornell University, meanwhile, has taken a subject-based approach through ArXiv.org, an e-print server that supports open-access distribution of scholarship in high-energy physics, mathematics, and related disciplines.

Helping our libraries pool their collection efforts. The alternative -- many parallel, redundant research collections -- is outmoded and no longer affordable. Our research libraries already collaborate to stretch their dollars. When they bargain collectively with publishers and distributors, they achieve significant savings. When they share print holdings through fast and reliable interlibrary-loan services, they ensure scholars' access to a universe of printed materials larger than any single university library can afford. When they come together to operate cost-effective offsite facilities to store infrequently used materials, they provide affordable access to a richer collection than any one institution can house locally.

Yet our libraries are hampered in their progress. They are rewarded for clinging to their independence, their redundant holdings, and ultimately to strategies that give their patrons a restricted view of the world of scholarly knowledge.

One impediment stands out, if only because it is within our collective ability to remove. The homage that we pay to the Association of Research Libraries' membership index -- which ranks the association's more than 120 member libraries largely according to the number of volumes they hold on their shelves -- is self-defeating. The index does not count the electronic or print materials that library consortia own and manage, and thus provides no incentive for consortium members to forgo acquiring holdings that are otherwise available to the system as a whole. Even though the membership index rewards inefficiency and waste, we continue to treat it as a meaningful measure.

The association can help by giving credit to its members for building shared collections and for effectively applying technology to their delivery. It should continue to fulfill its historic role, rewarding in rankings those institutions that provide speedy access to, and preserve for posterity, research and teaching material. But in a networked digital age, excessive attention to the local management and ownership of physical materials impedes the responsible stewardship of the scholarly and cultural record.

Clarifying with faculty members the economic and educational advantages of alternate forms of scholarly publishing. We should make sure that they understand how their tens of thousands of individual decisions to produce and use scholarly information ultimately affect our ability to support their research. Libraries need to demonstrate that local maintenance of infrequently consulted print materials undermines, rather than enhances, faculty members' access to research; money that could be used to add to the breadth of shared collections flows instead toward acquiring and managing duplicative local holdings.

Meanwhile, we should inform faculty members about publishers' pricing structures. We also can disclose information about the very different negotiating stances that publishers take with university libraries over interlibrary loan, preservation, and other conditions that affect how, and at what cost, research information will be available for scholarly use. The systemwide library leadership at the University of California, for instance, has been working with the Academic Senate leadership to mount such an informational campaign for faculty members.

If universities continue to operate as we do now, our library collections will grow -- but their scope and depth will diminish precipitously. It is the responsibility of top university leaders to lead the charge for a realistic assessment of how we can head off an otherwise inevitable loss of academic resources.

Richard C. Atkinson recently retired as president of the University of California.