

LIBRARIES

N E W S L E T T E R

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SCIENTIFIC PUBLISHING:
MANAGING THE CRISIS

On 30 April 1993 a group of nearly fifty University of Iowa science faculty, librarians, and administrators came together to address a common problem. The subject of the meeting was scientific publishing and the complex of problems affecting scholarly communication in the sciences.

The cost of information in scientific, technical and medical disciplines—especially the cost of journals—is undermining the ability of libraries to meet the needs of faculty and other researchers in these disciplines. Thousands of journal cancellations at libraries around the country, including The University of Iowa, have been the most visible manifestation of this situation. Between 1989 and 1993, the mean cost of a physics journal indexed in *Physics Abstracts* went from \$426 to \$774, an increase of 82%. The average cost of a journal indexed in *Engineering Index* rose from \$244 to \$417, or 71%, while the average for titles covered by *Index Medicus* grew from \$224 to \$324, or 45%. Each year, research libraries have been spending more and more on journal subscriptions, but buying less. Between 1985/86 and 1990/91, among a group of large research libraries such as Iowa, the

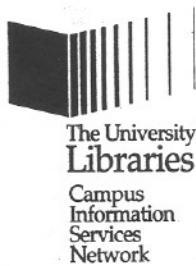
average cost of a journal went up by 72%, expenditures for journals went up by 70%, while the number of titles purchased went down by 2%. Since 1990/91 the trend has continued and shows no signs of abating. The cost of health care is one of the few goods or services that regularly matches this level of inflation.

Peter E. Nathan, University of Iowa Provost, David J. Skorton, Vice-President for Research, and Sheila D. Creth, University Librarian, initiated the meeting. The concern expressed by Provost Nathan and Vice-President Skorton emphasizes the importance of this issue to the basic teaching and research missions of the University. The participants engaged one another in dialogue not only about the nature of the problem, but also about potential solutions.

Following a brief opening presentation, discussion centered on possible campus responses to this complex and difficult issue. These are some of the ideas that received attention:

- Encourage faculty to refuse to publish in journals with questionable pricing practices

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NUMBER 1
SEPTEMBER 1993

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- Discourage professional societies from farming out publications to commercial publishers (Society publishers generally have much lower prices than commercial ones.)
- Review the importance of numbers of publications in the promotion and tenure process
- Explore the possibility of faculty retaining copyright when publishing in scholarly journals
- Increase cooperative activities with other libraries and use of commercial services as an alternative to owning journals
- Actively pursue the use of electronic means to deliver scientific information
- Hold similar meetings with other faculty groups—in the sciences and in other disciplines—both to increase awareness of the severity of the problem and to gain support and help in identifying and implementing solutions

For two hours attendees exchanged views and engaged in a lively discussion of the problem and many of the proposed solutions. Not unexpectedly, there was a considerable range of opinion about the root causes—particularly with regard to the thorny issues of copyright and the role of publication in the promotion and tenure process. The problems related to this issue are too intractable and interdependent to permit easy and straightforward solutions. But those who spoke acknowledged the idea that the fundamental problem demands the attention of all concerned.

In the end, the group agreed that the following directions appear to have promise:

(1) In a series of further meetings, librarians, faculty and administrators will continue the dialogue begun on 30 April. Librarians are planning similar meetings with faculties of departments in the sciences, medicine and engineering over the coming year. If interest and results warrant, these meetings will later expand to include the social sciences, arts and humanities, and professional schools. One of the participants noted that "many of the points made ... were provocative and further indicated the complexity of

some of the problems. It's my impression that some of the topics addressed are not discussed in 'polite society'. Perhaps one or two discussions per year such as we had on April 30th would help to keep some of these topics alive, thereby enhancing the chances of reaching solutions."

(2) A task force will be established to explore further the issues of copyright. At present, most authors writing for scholarly journals relinquish all copyright to publishers. Libraries of course buy back these articles, packaged as journals, with publisher-imposed restrictions on use. This situation can limit use of information and seriously impede cooperative activities among libraries. The task force will be asked to consider, among other matters, how faculty should deal with copyright when publishing in journals.

(3) Electronic publishing via computer networks has already revolutionized the way scientists communicate in disciplines such as physics. The electronic journal—or networked distribution of article-level information in some form—clearly has the potential to replace over time the printed journal as the dominant method for recording and communicating results of scientific research. What must The University of Iowa do in order to prepare for this future, and to negotiate the uneasy transition? What organizational and technological challenges must we meet before networked communication can really work? A second group will be asked to examine these questions and propose a course of action.

An alliance of faculty, librarians and administrative staff will pursue these three initiatives over the coming months. Questions related to the promotion and tenure system, and its possible role in encouraging unnecessary publication, were felt to be the province of Academic Affairs and will be left to Provost Nathan for further consideration.

Many have urged that universities, and in particular university presses, should take on an expanded role in publishing scientific research. At present few university presses publish scientific journals. This idea was presented and discussed, but elicited little enthusiasm. More popular was the possibility of using computer networks to disseminate the results of research produced on campus. The task force on electronic communications described above will consider the ramifications of this approach.

The Association of American Universities, an organization of the largest research institutions in the United States, recently charged a task force with developing a national strategy for managing scientific and technical information. Hannah Gray, former President of the University of Chicago, is heading the steering committee of this task force, whose creation reflects the broad import of the problem.

Perhaps real solutions to these problems can come about from a combination of local action taken at universities around the country, like The University of Iowa, and national initiatives like those under consideration by the Association of American Universities. The interest generated by those attending the 30 April meeting at Iowa demonstrates that this issue is crucial not only for librarians seeking to deal with rising costs, but that it is an even more critical matter for scientists themselves who depend on a system of scholarly communication now undergoing radical transformation. ■

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