

A woman with her hair in a bun, wearing a white long-sleeved shirt and dark trousers, is standing in a library aisle. She is looking down at an open book she is holding. The aisle is lined with tall bookshelves filled with books of various colors. In the background, there are windows and some chairs.

Dennis G. Hall

Some Thoughts on Journal Publishing in the 21st Century

Journal pricing is a hot topic among librarians. The journals published by non-profit professional societies are easier on library budgets than those produced by the profit-driven sector, but the fact that OSA and other non-profit societies price their non-member subscriptions to support non-publishing efforts raises a thorny question. Why, and to what degree, should universities subsidize, through their journal subscriptions, the general operation of professional societies?

The March 2003 issue of OPN carried a one-page summary¹ of the recommendations of the OSA Publications Long-Term Planning Group (LTPG), a report which is focused on sustaining OSA's journal revenue. Librarians' heads must have turned sharply when that issue hit their mailboxes. There on page 9 for all to see were the revelations that "On average, about 81% of the total gross journal revenue [of OSA] has come from nonmember journals, which likely will sustain 45% profit margins through 2008 ...," and that "... library subscriptions not only pay for all of OSA's journals but also underwrite a large range of other non-publications products and services." So-called non-member subscriptions are those purchased by many academic and some corporate libraries. Journal pricing is a hot topic among librarians, who have long understood (some would say suspected) that their journal subscription payments subsidize the non-publishing activities of the professional societies that publish those journals. OSA took a very bold step in March by making public its 45% average annual profit margin.

In actual fact, it's pretty easy to make the argument that the journals published by the Optical Society of America are bargains, even for academic libraries. I think it's important to keep that idea front and center as we tackle what to do about declining library subscriptions to those very journals. It's equally important to look beyond the doors of the library as we try to understand both what's causing that decline and what OSA might face in the future.

Few will be surprised by the news that universities have been struggling for years to keep up with the escalating costs of serials and monographs, but a quick look at the numbers is informative. According to the Association of Research Libraries (ARL),² between 1986 and 2002, the aver-

age journal subscription price increased by an average of 7.7% per year, from \$88.55 to nearly \$290. By way of comparison, during the same period, the average price of a book increased annually by only 3.6%, from \$28.70 to \$50.17. The impact of these numbers becomes apparent when one notes that major universities typically subscribe to 20,000 or more journals each year.³ ARL's survey² of 103 academic libraries reveals that between 1986 and 2002, the average library ex-

penditure for serials increased by more than a factor of three, from \$1,517,724 to \$4,963,111. Wherever two or more university provosts are gathered together, the odds are astronomically high that they're talking about how to rein in their library costs.

I began hearing about the implications of declining library subscriptions to OSA journals during the early 1990s, when I

served on the board of directors. Since that time, OSA has maintained its journal revenue stream and 45% average profit margin by raising library subscription prices to offset declines in the number of those subscriptions. Other professional societies have experienced the same phenomenon and reacted in much the same way. Despite those subscription-price adjustments, the journals published by OSA and other nonprofit professional societies are easier on library budgets than those produced by the profit-driven sector. Studies covering several disciplines make it clear that commercially published journals are several times more expensive than nonprofit journals even though their impacts are comparable.⁴ To help hold down their serials expenditures, those who manage library budgets wish that a greater fraction of the existing science and engineering journals were published by professional societies. OSA's journals are bargains compared to the library's current alternative, commercial journals.

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The benefits of professional societies

That OSA and other nonprofit societies price their nonmember subscriptions to support non-publishing efforts raises a thorny question. Why, and to what degree, should universities subsidize, through their journal subscriptions, the general operation of professional societies? There are some ready answers to the first part of that question. For one thing, society-sponsored conferences provide university professors with opportunities to secure recognition for their work, bringing distinction to their home institutions. The same can be said about the awards that societies confer on selected members. For another, professional societies can and do work effectively with universities to inform Congress about the significance of funding initiatives and research-related legislation. For yet another, universities require their science and engineering faculty to publish in well-respected, peer-reviewed journals. To the extent that OSA's general activities reinforce the scholarly reputations of the journals it publishes, those activities support the quality assessments that underpin the university promotion and tenure system. There are undoubtedly more good reasons for universities to see benefits in subsidizing professional societies. Determining an acceptable size and especially a source for such a subsidy will be tricky.

The university's landscape is littered with requests (demands?) for subsidies. Consider, for example, another publishing venue, the university press, which also faces a declining market for its product. Like OSA, many universities are publishers. The American Association of University Presses counts among its membership approximately 100 univer-

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A selection of OSA's journals. Universities require their science and engineering faculty to publish in well-respected, peer-reviewed journals.

sity presses in the United States and Canada.⁵ The combined output of those presses exceeds 10,000 books and 700 scholarly journals, mostly in the humanities and the social sciences. Nearly every one of those presses would operate at a loss were its operating budget not subsidized by its host university. For a small press, the institutional subsidy can be as large as 50% of the press's operating budget⁵ or on the order of \$10,000 per published book! Because a given university press draws only a minority of its authors from its own institution, that university can find itself providing a substantial subsidy to help a professor at a different university publish a book. This situation cannot even out among institutions over time because not all universities operate presses. The state and fate of university presses is a subject unto itself (see Ref. 6 for an interesting and recent summary).

And there's more. Even the federally sponsored research that generates much of the content in OSA and other jour-

nals is subsidized by universities. This subsidy occurs in several ways, including start-up packages for new faculty, mandatory institutional matching for certain kinds of grants, an increasing regulatory burden for research involving animals, human subjects or a growing number of biohazards and worrisome chemical agents, and an indirect-cost rate policy that under-reimburses

institutions for actual reimbursable expenditures made in support of sponsored research.⁷

Throw intercollegiate athletics, student financial aid and academic medical centers in with libraries, presses and the research enterprise, and you begin to get a sense of the environment in which OSA and other pro-

fessional societies are competing for subsidies to help cover the costs of their non-publishing activities.

Universities have relatively few sources of discretionary revenue: tuition, endowment earnings and gifts account for almost all of it. Private universities receive their tuition revenue from the families of the students who enroll. Public universities receive that tuition in part from the students or their families and in part from state allocations. At a time when it is hard to pick up a newspaper without reading that someone is complaining about rising tuition costs, university faculty and administrators are skittish about asking to what degree federally sponsored research should be subsidized by undergraduate tuition or gifts from donors. Imagine how nervous they are about the idea that their undergraduate tuition or the gifts that they solicit ought to subsidize the non-publishing activities of professional societies!

Library subscriptions are declining in number because universities are trying

to come to grips not just with library costs but with all costs. Universities for which research in optics is a major activity will have no choice for years but to place OSA's journals on the list of essential subscriptions, independent of whether those journals come in print or electronic form. The important quantity for OSA is the number of institutions for which its journals are essential.

The question of print vs. electronic format adds a bit of confusion to the mix. In the early 1990s, electronic publishing was being discussed in OSA meeting rooms in terms of new products that would provide additional revenue. On campuses, university leaders were and are hoping that this new medium will lead to reduced, not increased, expenditures. Today, even though the cost issue is not yet clear (at least to me), electronic publishing seems to be making inroads. I have the distinct impression, however, that in most cases electronic journals derive their stature and impact from the print journals with which they're associated. Many university promotion-and-tenure review committees likely will be wary, at least for a while longer, of cases based entirely on publishing in books or journals that exist solely online.

If the cost picture develops to support the continued expansion of electronic publishing, then I believe that it is possible to hazard a guess about where all this might be headed. In the near-term, I think that OSA's LTPG is correct in saying that the current system of print-based nonmember journal subscriptions, augmented by electronic replicas, can be relied upon for the next five years, through 2008. During those five years, more and more universities will be experimenting with institutional repositories, digital archives intended to store a university's intellectual output in such a way that it can be accessed by conventional search engines. Using such software as MIT's Dspace (www.dspace.org), universities will begin to establish archives to store for posterity the products of their own faculty's efforts in teaching and research. In the process, they'll develop

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The *Journal of Optical Networking* is OSA's newest all-electronic journal.

criteria for admitting contributions to the archives, criteria that might very well include some form of local peer review. From there, it seems rather a short step to admitting peer-reviewed contributions in select fields from other institutions, thereby converting, in those select fields, the institutional repository into a de facto university-based electronic journal. Indeed, it is hard to see how this would not come to pass.

In a world that accepts electronic publishing as a valid vehicle for scholarly expression, an electronic journal based in an institutional repository will find ready acceptance. We need only look to our law schools to find a clear demonstration that individual universities are more than capable of endowing journals with the necessary stature. Indeed, not only are the premiere journals in the field of law published by universities, they are edited by law students. Once institutional repositories-turned-journals exist and begin to attract contributions from senior faculty,

established commercial and nonprofit journal publishers will find themselves facing an expanding number of new competitors whose names are even more recognizable than their own.

I would not want to predict very precisely how long it will be before universities emerge as major competitors of the publishers of commercial and nonprofit electronic journals. One or two decades sounds about right. Personally, I prefer my reading material on paper, no matter whether it is *The New York Times* or *Optics Letters*. But if universities see a path to significantly reducing library and related expenditures while at the same time ensuring that their faculty and students have suitable, respected outlets for publication, and if electronic-only publishing truly becomes accepted, then it is hard to see what would keep universities from becoming electronic publishers. If my guess is even close to correct, then OSA and other nonprofit societies will want to explore opportunities to form partnerships with universities that will benefit the communities they serve.

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