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## **The Hard Reality of Moving Toward an Open Access Model**

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I'm pleased to have the opportunity this morning to introduce and moderate this panel on open access. I've been asked to take a few minutes this morning to set the stage for our discussion on the hard reality of moving toward an open access model.

### **Open Access: Origins and Motivations**

As you all know, open access is a movement driven primarily by researchers. The instigators of the early NIH E-biomed proposal who then became the founders of the Public Library of Science, and the proponents of the Budapest Open Access Initiative were by and large faculty, scholars, and researchers. These individuals recognized how much more effective their own work could be if the advances in technology that allowed them to share and manipulate data could be applied to the literatures of their fields.

Over the past few years, these researchers have challenged their colleagues, publishers, and granting agencies to help them bring their vision to fruition. And, in keeping with today's theme, they have based much of the argument for their vision on accountability--accountability of the researcher to science and other scientists; the accountability of publishers to science and scientists; and the accountability of funding agencies to science and the taxpayer.

We all know that advances in medicine, in technology, in the understanding of our environment and our economy, depend on scientists building on the work of others. Scientists understand that they are responsible for making their work known and known as widely as possible.

But it is not only an issue of dissemination. As mentioned before, scientists today recognize that with the available technology, their work could be far more effective if they could search and manipulate literature, data, reference works, image and audio files, simulations, and video across a wide range of disciplines. Open access would allow them to speed discovery and innovation and they are frustrated by those they had considered partners in advancing science who are resisting this change.

The promoters of open access are also challenging funding agencies to consider their accountability to the taxpayer. If there are now avenues by which access can be increased and use of resources enhanced, shouldn't the funding agencies be supporting them? Don't the agencies have a responsibility to both science and the taxpayer to ensure that the investment made in research is optimized and innovation accelerated?

The interest of researchers in open access has captured the imagination of librarians interested in finding alternatives to the current system of scholarly publishing. Librarians have watched the price of journals rise well above the rate of inflation for several decades. We have witnessed large commercial publishers growing ever larger by acquiring other companies and society journals. We have seen some societies take advantage of the importance of their journals and the conditions of the market to subvert many of their non-publishing activities. We have experienced the advent of electronic resources adding yet additional costs to already strapped budgets. And we have debated the pros and cons of the big deal as an effective strategy to cope. Libraries have also coped by buying fewer books, joining in consortial arrangements, and most recently, by canceling large amounts of print. We also created SPARC and BioOne in an attempt to bring some competition to the marketplace, to prove that you can create quality products at reasonable costs, and to offer societies reasonable alternatives to contracting or selling their journals to commercial players. ARL and SPARC have worked to help you engage faculty on your campuses on these issues.

Some of these faculty have now spoken. And they want open access. Many of us believe that in the long run, open access publishing will be a far more cost-effective system than the current one. In fact, some of us believe that even if the whole system ended up costing the same that is spent in total now, the value of unfettered access and accelerated innovation would be worth it. Moreover, open access would remove the monopoly power of the publishers which makes the current system possible.

## **Recent Developments**

While there is much to be done, change is in the air. The discussions over the last couple of days have been energetic and enthusiastic. Several milestones in achieving open access have been reached over the past 6 months--the Bethesda Principles were promulgated; the Howard Hughes Medical Institute and the Wellcome Trust announced their support for paying publishing fees from their grants; the Public Library of Science succeeded in taking their message of the importance of access to government funded research to the public, and the PLoS launched the first issue of their first journal, PLoS Biology, earlier this week. At the same time, libraries are playing hardball with publishers, hiring professional negotiators and being willing to walk away. No more 'business as usual,' as one director put it yesterday.

## **Questions that Need to be Addressed**

But before we become intoxicated with the sweet smell of success, there are many questions about open access that remain to be answered, not the least of which is, will it really be affordable? While there are a number of open access journals in existence (over 500 of them listed in the Directory of Open Access Journals), many of them operate with volunteer labor and infrastructure costs absorbed by the editor's institution or a benevolent organization. Can this model scale? Does it need to in an open access environment? What happens when the volunteers grow weary and the institution looks for activities from which to recover costs?

What about the author's fee model? Won't that drive authors to the commercial sector as it did many years ago? Even if some funding organizations, such as Howard Hughes, the Wellcome Trust, and maybe even the NIH at some point, agree to pay such fees as a part of grants, what about those disciplines that are not well funded? What about the disciplines where authors aren't used to fees of any

kind? Will libraries and universities be willing and able to absorb these costs? The research institutions, in particular, where many of these authors reside, will end up bearing the brunt. Will distributed digital repositories actually be the appropriate open access vehicle for some disciplines?

These are all questions that need to be answered. But we cannot wait for all of the answers before we decide whether or not to support open access. In fact, we cannot answer a number of these questions without working models from which to draw experience. So what should we do?

## **Ideas for Advancing Open Access**

Here are just a few ideas for advancing open access. I hope we'll hear many others from our speakers and from you this morning.

1. Applaud and celebrate the first successes of the Public Library of Science. Make it known to your faculty; place articles in your campus paper; feature faculty who publish there (you did receive an excel file from both SPARC and me with information on authors who published in the first issue).
2. Build local digital repositories. We need to get the infrastructure and tools in place for all those disciplines for which open access journals may not work. Among the many other kinds of resources they may choose to submit, encourage authors to submit their post-publication work. We need to build a critical mass of open access material and do research on the impact of that work being openly available. We need to build the case for the value of an open access model. (How many of you are working on building repositories?)
3. Are you willing to pay authors fees from the library acquisitions budget? Are you willing to host and absorb the costs of an open access journal in a field where fees from funders are not likely? What information could be discovered from such experiments?
4. Connect the dots for your provost and president. How are the investments in local repositories and potentially publication fees going to help us address issues in scholarly publishing? What returns might the institution gain from such investments? (we will be preparing materials in coming months to help you do this.)
5. Most importantly, we need to be realistic in our expectations. The problems we have encountered have been decades if not centuries in the making. Give the experiments time. Do what you can to help them succeed. Know that there will be bumps in the road, unexpected curves, and perhaps even a fork or two. And we may even need to stop and pick up stranded colleagues along the way. At the same time, we shouldn't lose sight of our destination. Neither should we be prescriptive. There are likely to be multiple routes and we should be willing to explore.

## **Introduction of Speakers**

But now, let's turn to our speakers who will help us understand better where reality sits from their perspectives.

Our first speaker on this panel will be Professor Stuart M. Shieber, Harvard College Professor and James

O. Welch, Jr. and Virginia B. Welch Professor of Computer Sciences at Harvard. Professor Shieber studies communication: with humans through natural language, with computers through programming languages, and with both through graphical languages. Professor Shieber graduated summa cum laude from Harvard with a degree in applied mathematics. He then served as a research computer scientist at the Artificial Intelligence Center of SRI International and worked on his PhD in computer science at Stanford. After receiving his PhD in 1989, he returned to Harvard as an assistant professor and has been there ever since, except for brief sojourns as a visiting professor at Santa Cruz, and a visiting scholar at Stanford and the Center for Scientific and Technical Research in Trento, Italy. Professor Shieber was a Presidential Young Investigator from 1991-93 and a Presidential Faculty Fellow from 1993-98.

In addition to an extensive publication record, Professor Shieber holds a number of patents and is a frequent speaker. Nevertheless, he makes time to serve on both the Library Committee of the Division of Engineering and Applied Sciences at Harvard, and the Standing Committee on the Library of the Faculty of Arts and Sciences. Professor Shieber informed me last evening that he has a long history with libraries. He worked as a shelver at his local public library while in junior high school--mind-numbing was the way I think he put it. But he did enjoy the times he actually had to do shelf-reading--he picked the mystery section which offered a good bit of diversion. And I'll let him tell you his opinion of those who used the books in the 600's!

Professor Shieber is going to speak to us this morning about open access from the perspective of a faculty member and what he sees as the challenges ahead.

Our next speaker, Heather Joseph, is, I trust, well-known to most of you in the audience. Heather is President and COO of BioOne. As you know, BioOne is the product of innovative collaboration between scientific societies, libraries, academe and the private sector. It is an aggregation of the full-texts of high-impact research journals in the biological, ecological and environmental sciences published primarily by small societies and non-commercial publishers. BioOne was established by the community to ensure that these small publishers did not turn to the commercial sector to provide digital versions of their journals.

For the past fourteen years, Heather has worked in the field of scholarly publishing, concentrating on bringing together scholarly traditions and emerging technologies. While at the American Astronomical Society, she helped create one of the first fully electronic journals. More recently, she developed a system to peer review and publish multimedia content in a leading cell biology journal. In 2002, Heather was awarded the ALPSP Award for service to Non-profit publishers for her work on BioOne, and in 2003 was elected to serve as the incoming President of the Society for Scholarly Publishing.

Heather will be speaking to us this morning about the challenge small publishers face in considering a move to an open access model.

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