

Rethinking What's *Public* in the University's Public Mission

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As Jennifer Washburn rightly warns in *University Inc*, higher education is in danger of losing its standing as the hallowed halls of learning as it is viewed more and more by certain forces within and outside the university as “a knowledge factory capable of spawning cutting-edge ideas, high-tech corridors, spin-off companies, and jobs” (2005, p. 171).¹ Just how far this commercialization and privatization of the university has gone can be seen in recent Congressional hearings on the universities' tax-exempt status, with some challenging exactly what these institutions are giving back to the larger community, beyond the benefits provided to students who pay tuition and to alumni, as well as other donors, who collect tax advantages (Delbanco, 2007, p. 26). This is indeed a time to rethink the research university's public mission.²

Yet rather than joining those helpfully documenting the diversion of the university's public mission by corporate interests in research agendas and campus real estate, I want to focus on what is decidedly *not* changing to the degree that I believe it should be, in terms of that mission. That is, the current transformation of scholarly communication has yet to do all that it can to advance the university's public mission. That transformation, having affected every other aspect of how we work, has not substantially transformed public access to research and scholarship in ways that it easily could, judging by the many demonstrations of open access to this work that are now operating.

Public access to research and scholarship may be a small, if vital, part of this mission, I will argue, but it also bears on circulation of knowledge more generally. On

¹ When it comes to the public status of research, Washburn's focus is on patent law, but her concerns apply no less to scholarly publishing: “The question of who *owns* academic research has grown increasingly contentious, as the openness and sharing that once characterized university life has given way to a new proprietary culture more akin to the business world” (2005, p. xi).

² At the root of this commercialization and privatization in higher education is a loss of state support, or as Edward P. St. John and Michael Parsons put it, “in the late twentieth century the underlying rationale for the public funding of higher education in the United States broke down” (2004, p. 1). Reduced government support has led to an increasing dependence on tuition and earned income (Priest, St. John, & Boon, 2006) and a broader commercialization that has affected the teaching, athletics and research funding of public and private institutions (Bok, 2004).

the other hand, to ignore current opportunities to greatly increase access to this knowledge is to stand by while the public status of this work is increasingly eclipsed by huge gains in public access to many other sources of information and knowledge. That is, not only is the oft-noted increasing expense of journals diminishing the public quality of this work, but more importantly the very standard for what it means to make something public has radically changed.

Today, when government-funded work is made public, people expect to be able to find it freely available online. It was once more than enough to make such work public by printing it in a newspaper or selling it in bookstores. One might consider *The Pentagon Papers* as a prime instance (Herring, 1993). Now, government documents, agency reports, court decisions, foundation-funded studies, as well as the scandalous Abu Ghraib documentation, are all part of the web's public sphere.³

This shift in what it means to make something public sets a new standard for judging, to take a relevant example for this collection, the Social Science Research Council's mission to "mobilize existing knowledge for new problems... and enhance public access to information." Just so, SSRC now wisely supplements its book publishing program with a series of Online Forums and Essays that make freely available the work of scholars who have come together to address such themes as "Is 'Race' Real?". Anything less than affording the public some measure of, if not complete, access to this knowledge work diminishes, or so goes my claim, the institution's claim to a public mission.

Putting the materials online for readers turns out to be only half the story for this new public sphere. Public access can also be defined in terms of a swell in critical engagement with these freely posted materials. The resulting exposure, citation, commentary, and critique—in blogs, wikis, bulletin boards, and social networks—is no less a part of the newly digitized public sphere. The Internet has radically altered the technical and economic basis on which the public sphere operates, revitalizing its standing as a place of ideas, information, and debate. Of course, many of those ideas are based on debatable misinformation. But then how fair is it for the academic community

³ It is not that I imagine that information can somehow be free in any economic sense. Rather the costs associated with printing, binding, and distribution are not borne by Internet access and computing expenses.

to complain about information quality online, when most of what the university produces in the name of rigorous scholarship is essentially sealed off from the public sphere? While the news media have been restlessly searching for the best business model for operating within this new public information zone, the *New York Times* recently decided to provide readers with open access to all of the newspaper, going back 20 years (instead of just seven days).⁴ I am not going to suggest that any one model will fit all players (let alone one based on advertising revenue). I do want to outline below ways for universities to make a much greater contribution to what is otherwise an increasingly well informed and accessible space.

Up to this point, a number of faculty members, groups of researchers, society publishers, research libraries, and entrepreneurs have taken advantage of this communication revolution to increase the contribution that research and scholarship make to the public sphere. At best, perhaps 15-20 percent of the work produced and published each year has been made open access (Hajjem, 2005). It is a significant token, but no more than a token compared to how entirely involved universities have been in establishing more open forms of communication, beginning with the original ARPANET, and continuing with their leading role in the cooperative development of open source software for educational and research purposes. The spirit of technologically enabled openness within the academic community has also evolved into open data movements (Uhlir & Schröder 2007) and forms of open notebook science (Bradley, 2006), and follows on researchers' increasing use of blogs and wikis (Bock, 2007). MIT has been putting course outlines and slides online through MIT OpenCourseWare since 2002, and Stanford is offering free recordings of lectures through iTunes U.

All of this activity only points to questions about why more of the research and scholarship published by research universities in peer-reviewed journals, now that it exists almost entirely, if not exclusively, online, is only available to the public, professionals, and policymakers if they are able to visit a research library with public-access terminals, subscribe to a journal for at least a year, or pay up to \$40 to view a

⁴ On greatly increasing free access to the newspaper, the *New York Times* informed its readers that “we believe offering unfettered access to New York Times reporting and analysis best serves the interest of our readers, our brand and the long-term vitality of our journalism. We encourage everyone to read our news and opinion – as well as share it, link to it and comment on it.” (Schiller, 2007).

single article. The journal publishing system that has developed since the seventeenth century has indeed proven to be an effective way of maximizing the distribution and circulation of knowledge in the world of print. It was not, by the late twentieth century, a very efficient economic system, judging by what commercial publishers charged for journal subscriptions compared to what non-profit societies charged for their often more highly ranked journals (Bergstrom, 2006). In that sense, the notion of making this work public, in a financially responsible and accessible way, was already in a state of serious decline by the time the Internet arrived on the scene.⁵ Since then, with a proportion of this published and peer-reviewed work currently open, public, and free, it is clear that something is even further amiss in this particular knowledge economy.

For the university to carry on business as usual in the face of these two closely related phenomenon— that is, with a new standard for making information *public* and many viable demonstrations of open access to research—is to miss the chance to give new meaning to the institution’s public mission and its place within the public sphere. More than that, this body of knowledge is subject to the increasing control of a handful of commercial journal publishers that make it subject to a business model that only serves to further restrict its circulation among researchers. My hope is that this chapter will make it a little harder for those who address the university’s public mission to ignore these developments in scholarly communication, while making it at the same time somewhat easier for them to get behind the open access movement in higher education by setting out for them a few simple steps to follow. I want to suggest how universities, scholarly societies, research libraries, faculty and students can further fold this new public element into the flow of scholarly communication. It is within our reach to add a greater part of this public good to an otherwise revitalized public sphere. The public and professionals are showing a good deal of interest in the latest research, whether out of personal concerns in the area of health or through broader interests with *Wikipedia*.⁶

⁵ It is worth noting that at the very origins of scholarly publishing, with the founding, for example, of Cambridge University Press (the oldest continuous press publishing in English), the university was very much involved in ensuring that fair rates were charged for printing services and working closely with the trade guild, lending capital at times (Black, 1984, pp. 8, 16).

⁶ For example, the Pew Internet and American Life Project has established that 36 percent of those online consult Wikipedia (Rainie, 2007), while 87 percent have sought scientific information (Horrihan, 2006).

I realize that research and scholarship contribute a great deal to the public good without this work ever having to find its way outside of the university libraries that subscribe to the requisite journals. Research does lead to public benefits and contributes to human understanding without entailing any form of public access beyond its publication in a scholarly journal of whatever cost. But in that sense, as well, greater public access also means greater scholarly access. The work that is being made freely available is, for example, being cited by researchers more often than articles that have not (yet) been made open access.⁷ And this global circulation of knowledge is no less basic to the advancement of research, and thus essential in that sense, as well, to the university's public mission. But still it turns out that much of what is said about the public mission of the university bears just as much on this question of direct public access to knowledge as it does on the indirect public benefits of research and scholarship.

To jump back a century or two, Henry Malden, for example, in his 1835 book *On the Origin of Universities and Academic Degrees*, which had been commissioned by the Privy Council of the British government (in relation to petitions to granting the University of London a charter), conveys this public mission's legendary standing in the "spontaneous" formation of these bodies: "The oldest universities of Europe sprung up in the twelfth century, and were formed by the zeal and enterprise of learned men, who undertook to deliver public instruction to all who were desirous of hearing them" (1835, p 2). And today, nine centuries later, those who would serve as the public figureheads of the resulting institutions that undertake public instruction miss few opportunities to reference the public service and mission of the university, all the more when it comes to the presidents of elite institutions.

Among recent university leaders, Harold T. Shapiro, former president of Princeton University and the University of Michigan, was quick to state in the 2003 Clark Kerr Lectures that "private and public universities... serve society as both a responsive servant and a thoughtful critic," referring to this service as "the university's public trust" (2005, pp. 4-5). On the specific point of public access to knowledge, Shapiro has no trouble bringing forward rhetorical precedents of this civic-minded

⁷ For a bibliography and discussion of studies that measure the impact of open access on citations, see Hitchcock, 2007.

sensibility by drawing on Harvard president Josiah Quincy whose 1833 appeal to the Massachusetts's legislature reminded that public body of, in Shapiro's words, "the public character of Harvard's library assets" (ibid.). Shapiro, in turn, makes it clear that Princeton is "not some kind of private social club," as all of its assets also "exist to serve a public purpose" (pp. 5-6). One form which that service takes is to connect "our rapidly accumulating new knowledge" with "the appropriate response of public policy," while recognizing that "the application of science is a social decision" (p. 158). Shapiro recommends creating "venues for serious conversations" between scholars and the public (p. 159). Having greater access to the scholar's work, in its published form, would seem conducive to such conversations, not as a requirement but as a courtesy and point of openness and respect for those with whom one is inviting such conversation.

While Shapiro addresses the current threats posed to the university's public mission, Derek Bok, former president of Harvard University, is certainly more adamant about the threat of commercialization in every area of university practice (except scholarly publishing), pointing out that "in the past twenty-five years, the number and variety of commercial activities on the campuses of research universities have reached proportions never dreamed of in earlier periods" (2004, p. 32). On the one hand, as he sees it, "the profusion of these commercial ventures reflects the critical importance of research and advanced education to contemporary society" (ibid.), while on the other hand, these ventures have led to more than a few research scandals and faculty conflicts of interest or what he politely refers to as "unwise compromises with basic academic values" (p. 46).⁸ Although he considers the undue educational influence of athletic programs, over-priced professional programs, and pharmaceutical research funding, Bok doesn't look at the increasing commercialization of scholarly publishing and the relative decline in the "public" nature of access to this knowledge as contributing no less to this breach in public trust.

If overlooking the potential for increasing public access to knowledge is a common pattern among those higher education leaders, it is no less absent,

⁸ In an op-ed piece in the *Boston Globe*, Derek Bok, while noting that 10 percent of faculty pay any attention to the research on teaching and learning in higher education, coolly observes that "empirical studies command respect only when they are used to investigate institutions and professions other than those to which professors themselves belong" (2005).

unfortunately, among those who find their calling in the study of higher education.⁹ For example, Adrianna J. Kezar, Tony C. Chambers, and John C. Burkhardt, in their recent collection *Higher Education for the Public Good: Emerging Voices from a National Movement* express a deep concern over “a shift, and perhaps loss, in the role higher education plays in serving the public good” (2005, p. xiii). They are encouraged, as am I, by “an emerging movement in higher education related to the public good” that has arisen in response to the loss (p. xv). This movement seeks to “examine and build the role” that universities “play in the larger public good,” as it seeks to develop “strategies to craft organizational cultures and environments that contribute to the public good” (p. xv). My case is, of course, that far greater university and faculty involvement in open access approaches to publishing is just such a strategy that would contribute to the public good.

The book includes one chapter that deals directly with the access to research issue, Judith A. Ramaley’s “Scholarship for the Public Good” (2005). In a passionately argued essay that makes a succinct case for the “engaged university,” Ramaley focuses on “the appropriate goals of scholarship” by calling for greater balance between “theoretical and analytical conceptions” of research and “addressing very practical problems for which new knowledge or the integration of knowledge is needed” (p. 167). She would engage students in this process “and thus prepare them for citizenship and for the professional responsibilities that they will later assume” to which I want to add, they will assume after they have lost any right or ready ability to access the new knowledge or the integration of knowledge that is needed. Ramaley goes on to speak of creating “a student for life,” of the importance of fostering “communities of learning” in relation to industry, schools, health services and other areas of modern life, and of “collaborative learning” in which knowledge is generated, applied and interpreted” (pp. 178-179). And while I think Ramaley’s vision of research is as encompassing and open as I would like to see it, my question here is about access.¹⁰ That is, how can we reasonably expect such learning to continue to happen among adults when access to the most vital

⁹ The sterling exception here is David E. Shulenburg, who as Provost of the University of Kansas, has applied his economic training to devising ways of increasing access to scholarly publishing (2001).

¹⁰ I would argue against limiting the goals of research in the way, for example, Kelley Ward advocates when stating that “to fulfill the goals of the scholarship of engagement, scholars must link their teaching, research, and service to community problems, challenges and goals” (Ward, 2005, p. 231).

and vibrant sources of knowledge—with universities working to foster, in Ramaley’s words, “a thirst for knowledge and a desire for practical outcomes” (p. 180)—are effectively cut off for those lifelong students and communities of learning. Graduating students are needlessly being cut off today for no other reason than it is taking some time for universities to realize how readily they might take hold of current opportunities to make this knowledge a far greater part of the public sphere.¹¹

Let me offer a final instance among contemporary calls for improving scholarship’s public reach, this time from the American Sociological Association (ASA). Scholarly societies are particularly focused on the research side of academic life, and, as such, are often responsible for the leading journals in any given field. The ASA recently sponsored a collection on “public sociology,” following on its 2004 annual conference on this theme (which stands as its best attended and most widely discussed annual meeting). Michael Burawoy, in his presidential speech to the meeting, makes it clear that he sees public sociology revitalizing the discipline, repositioning it once more as “the angel of history” as sociology “represents the interests of humanity—interests in keeping at bay both despotism and market tyranny,” (2007, p. 56). When it comes to the active defense of humanity, to setting up of a public conversation based on public sociology, when it comes to “making the invisible visible and the private public,” he ends up pointing to the ASA’s public work which includes “congressional briefings and its regular press releases ... [and] the column of our newsletter, *Footnotes*” (p. 57). I want to respectfully suggest that, in addition to these pieces, as well as op-ed articles in newspaper and the rare popular book written by public sociologists, much more can be done to advance the ASA’s newfound public mission, which would indeed make it feasible for the public and sociologists, in working together or independently, “to draw on a century of extensive research, elaborate theories, practical interventions, and critical thinking” (p. 58).¹²

¹¹ A similar stance is found in higher education efforts to foster “moral and civic learning,” as a means of ensuring that universities exercise “a powerful influence in reinvigorating the democratic spirit in America”; the goal is to teach students to become better citizens, so that they are able “to see the moral and civic dimensions of issues, to make and justify moral and civic judgments and to take action when appropriate” (Colby, Ehrlich, Beaumont, & Stephens, 2003 pp. 8, 17). Such a well-educated citizen would seem likely to also benefit from continuing access to research and scholarship.

¹² By the same token, making a greater part of this knowledge public will address William Julius Wilson’s concern, from this same collection of essays, that “some of the best sociological insights never reach the

What can be readily done today to extend the public mission of research universities is make far more research and scholarship available to more people. Or rather what can be done to prevent sociology and botany, for instance, from becoming relatively less public, and less a part of the public sphere, given the current growth in access to information through other channels, is to explore how the new technologies of openness that the university is otherwise contributing to can be used to make more what researchers are doing and have long done public. To achieve this, university leaders, research librarians, authors, editors, scholarly societies, and anyone else who is concerned with the commercialization of higher education and earnest about restoring, if not extending the public mission of research universities, need to endorse and support what are now well-established paths to open access for this body of knowledge. They also need to be open to innovation and leadership in scholarly publishing models, given how fast these online knowledge economies and technologies are developing and reshaping knowledge production, as already noted.

There are principally two methods for improving access to research. The first of these is referred to as *author self-archiving*. This entails authors taking a few moments to upload copies of their published work to open access sites, such as their own website or a library-run archive, under terms set out by publishers. The second path is *open access publishing*. This involves journals, for the most part, that have found a means to make their content free to readers immediately on publication or some period of time after their subscribers receive their issue. I will briefly describe both of these initiatives with an eye to how university leaders, research librarians, authors, editors and scholarly societies could play a more informed role in fostering access to knowledge as part of the university's public mission. But before I do that let me again address the most reasonable of concerns about this approach, this time concerning how making this body of work public, in this basic sense of not charging someone to read it, will have little value in itself.

general public because sociologists seldom take advantage of useful mechanisms to get their ideas out" (2007, p. 118), and Immanuel Wallerstein's apprehension that there will not be "a more plausible historical social science, a more reasonable accommodation of multiple readings of the good, and therefore ultimately a democratic political system if there is not greater openness in our public discussion" (2007, pp. 174-75).

I would be the first to acknowledge that, by analogy, handing out on a bus a Talcott Parsons off-print for “The School Class as a Social System” would only be a waster of paper, and do little for anyone’s public mission. To make, say, sociology or biology public carries with it responsibilities that have to do with the other meaning of *accessible*. That is why those of us promoting open access are designing and analyzing new online reading environments for scholarly work that include tools that provide readers with additional context and background for the articles they are reading (Willinsky & Quint, 2007; Twomey, 2007; Willinsky 2003; 2007). This is still preliminary and ongoing work, but that in itself is not a reason to hold off addressing how well the public’s basic access to this existing body of knowledge fits within the scope of the university’s public mission, and how relatively easily that access could be greatly expanded.

In the case of author self-archiving, the viability, not to mention legality, of this path to greater access has been guaranteed by a majority of journal publishers who now expressly permit authors to post the work on their own website or an institutional repository. They can post it in many cases before it is reviewed, but more often after it has been reviewed and revised.¹³ The publishers as a rule do restrict authors to posting their own latest version of the article, rather than the publisher’s final version, and publishers typically ask authors to wait 6-24 months before posting the post-review version. This means, in effect, that the archives represent a parallel universe of knowledge, made up of not-quite-identical work to the final published version. Still, Stevan Harnad is right to insist that self-archiving is the easiest and most direct route to open access for a good proportion, if not yet all, of the literature (2007).¹⁴

It’s true that the initial response to this right-to-archive has not been widely embraced by authors. For example, only four percent of the papers reporting on research funded by the U.S. National Institutes of Health were made public in the first eight months of the NIH’s public access policy initiative in 2005, in which authors were

¹³ To examine Taylor and Francis’s author self-archiving policy, which stands as a strong statement on the publisher’s sense of contribution and control, see <http://www.tandf.co.uk/journals/authorrights.pdf>. For a database of over 300 publisher archiving policies, see SHERPA (<http://www.sherpa.ac.uk/romeo.php>).

¹⁴ Harnad has also contributed to the development of the open source software Eprints.org for setting up institutional repositories that includes a “request eprint” button for work which is embargoed until a certain subscription-protecting period has passed.

“requested to submit” to PubMed Central “an electronic version of the author's final manuscript upon acceptance for publication” (NIH, 2005; NIH 2006). In response, the NIH has come back with proposed legislation that is now going forward, as I write, to turn the “request” made of authors to self-archive into a requirement for those who receive NIH funding. A number of scholarly publishers have been lobbying against this measure, revealing in the process the limits to the publishers’ endorsement of self-archiving.¹⁵

Whatever the fate of this particular legislative measure, and it is but one of a number of such initiatives before the U.S. Congress, there are now a number of funding agencies in various parts of the world, as well as a few universities, that have instituted archiving mandates requiring authors to post copies of their published work in an institutional repository some months after its publication.¹⁶ At the same time, Alma Swan reports that nearly half of faculty in 2005 report that they engaged in some form of self-archiving, with that number having doubled from the year before (2007).

This is the very point when this approach to open access needs support, after an initial swell of interest and support has demonstrated its value and viability, and when the publishers, after initially permitting it, are now turning against it. Bringing the particular focus of the research university’s public mission to increasing the amount of work publicly archived would add much to the compelling case for open access. There is much that universities, departments, and research units can do to get behind this idea, even if they are understandably reluctant to put archiving mandates into place, given the need to respect faculty autonomy and rights over their intellectual property (which the same faculty are only too happy, the cynically inclined might note, to turn over to commercial publishers).

The first step for a university is to establish a repository for such archiving. A number of well-supported open source software systems for archiving are available to

¹⁵ See the Partnership for Research Integrity in Science and Medicine (PRISM), which has been established by the American Association of Publishers to counter open access mandates or as it puts it: “Various initiatives and proposals have been put forth by special interest groups and some legislators that would force private sector publishers to surrender to the federal government all peer-reviewed articles that report on research supported by federal research grants” (PRISM, 2007).

¹⁶ See the ROARMAP (Registry of Open Access Repository Material Archiving Policies) maintained by Eprints.org at <http://www.eprints.org/openaccess/policysignup/>.

assist in the uploading, management, and indexing of such materials (OSI, 2004).¹⁷ With a repository in place, the university can then recognize and actively promote work that is made open access by featuring it on library, departmental, or other websites. It can build collections of open access materials that speak to issues of interest to the public and professional communities, with follow-ups to the media on particularly timely topics. It can ask for faculty to designate in their annual reports on their activities that part of their work has been archived, in light of its additional contribution to the global academic community, as well as to the public sphere. In this way, the university can greatly increase its position, given growing public and media expectations that access to information is a basic right and a necessary aspect of life in the twenty-first century.

By the same token, scholarly societies should first of all make sure that their journals have simple, easy to follow, self-archiving policies that are clearly posted and actively supported as a point of pride for the association, as it represents a recognition of author rights and opportunities, as well as a service to the global community. The societies could feature archived articles on their websites in a similar fashion to the universities.¹⁸ This greater openness will lead to increases in the journals' impact factor, as well as add to the authors' citation count, as a number of studies have shown.¹⁹ As for the impact of self-archiving on a journal's subscriptions, the longest standing example is with high energy particle physics, where arXiv.org Eprint Archive is now a dozen years old and archives almost the whole of the current literature. The publishers of the relevant journals report no decline in subscriptions to their relevant journals, at least none over and above the general decline that journals are experiencing as more titles come on the market (Swan 2005).

While mandated author self-archiving is the most straightforward means of achieving open access, universities have reason to investigate ways of supporting open

¹⁷ There are somewhat less than a 1,000 institutional repositories registered with the Directory of Open Access Repositories at the University of Nottingham (<http://www.openoar.org/index.html>).

¹⁸ Scholarly societies are having to rethink their service to members, now that they are no longer offering members a particularly exclusive access to their journals (which are equally available online through the research library).

¹⁹ See n. 7.

access journals.²⁰ There is a need, for example, to create a publishing alternative to the growing degree of corporate concentration and market share taking place among a small number of commercial publishers (namely, Elsevier, Springer, Wiley-Blackwell, and Taylor and Francis), which is leading to further limitations on research library holdings.²¹ At stake are the scholarly society journals that are being turned over to these commercial giants (in return for highly professional publishing services, online and in print, as well as considerable increase in revenue for the society beginning with a cash advance in some cases).²² New approaches to open access publishing could also serve to strengthen journal publishing in developing countries.²³ It can mean the difference between struggling to publish a print journal with but a handful of subscribers (including donor-supported subscriptions), and struggling to publish a journal online that is available world-wide and indexed in Google Scholar, with its articles immediately and freely available to readers. Enabling new journals, as well as helping existing ones go online, would give a boost to the research and review culture within this academic community.

The public mission of the university can be furthered, in other words, by supporting not only the archiving of published articles but by participating in journal publishing. For universities and their libraries to support the publishing efforts of scholarly societies and groups of faculty speaks not only to the current economics of

²⁰ Stevan Harnad argues that efforts to increase access are most effectively directed toward government, funding agency and institutionally mandated self-archiving, and that open access journal publishing “is and remains premature until and unless publishing costs are cut and institutional subscriptions are terminated so they can be redirected to cover the institutional publication costs [associated with the author fees that some open access journals charge]” (2007). My involvement in open access has been largely on the side of supporting open access journal publishing through my work with the Public Knowledge Project on open source software development as a cost-cutting measure, and my arguments here should be seen in that light.

²¹ Raym Crow: “Commercial publishers now play a role in publishing over 60 percent of all peer-reviewed journals, owning 45 percent outright and publishing another 17 percent on behalf of non-profit organizations” (2006).

²² Moving a journal from non-profit society to commercial sector can lead to a five-fold increase in price, to use Ted Bergstrom’s analysis on the differences in economic journals on a per-page basis (2006). That is, the commercial publishers are charging more than five times what the societies charge for peer-reviewed published articles. Even if the articles were five times as good (and Bergstrom provides evidence based on citation counts that this is not the case), it would be difficult to account for the difference, as the authors are unpaid and select the journals to which they submit.

²³ For example, we have been working through the Public Knowledge Project, largely in collaboration with the International Network for the Availability of Scientific Publications, to provide and support the use of our open source journal software (Open Journal Systems) to enable journals in developing countries to achieve a far greater distribution within the region as well as globally.

publishing. It also creates a responsive channel for new intellectual developments and thus serves as a source of academic freedom and innovation, as open access publishing allows journals that form around new ideas to immediately circulate within the global academic community (Willinsky, Murray, Kendall, Palepu, in press). As to the viability of open access journals, literally thousands of open access journals can attest to a variety of publish models that are succeeding in making peer-reviewed work freely available to readers online. Some of these journals, in areas rich in grants (such as biomedicine), charge authors a fee to see their work through to publication (once it has passed peer review).²⁴

Most open access journals, however, would not think of charging authors a fee (given the level of research grants in their area). Open access journals reduce costs (by dropping print) while continuing to rely on the two scholarly mainstays of journal publishing outside of the biomedical fields, namely, the volunteer efforts of dedicated editors and a modicum of institutional support, if only in the form of an office and perhaps a research assistantship. A good number of open access titles also tap into another element of this revitalized public sphere by utilizing open source software to manage and publish journal, which further reduces their costs while offering a sustainable means of keeping up with technical developments in taking advantage of this new publishing medium.²⁵

For those titles that cannot imagine going without a print edition at this point, there is the example provided by those journals that provide what is known as *delayed open access*, with content released for free reading some period after its initial publication. The *New England Journal of Medicine* is a leading instance, with everything made free six months after publication. It is hosted by Highwire Press, a

²⁴ BioMed Central is a commercial version of the open-access author-fee model, with 180 titles that are only published online. The Public Library of Science is a non-profit instance that has managed to use this open access model to establish very quickly some of the highest ranked journals in their field. As well, a number of publishers offer an open access option for their otherwise subscription journals, with authors able to purchase open access for their article alone. Springer has struck deals with the University of Göttingen and a Dutch library consortium to ensure that its associated faculty's work is open access in Springer journals (Suber, 2007). This purchased-open-access approach has led Oxford University Press to reduce subscriptions prices on some of its journals, as costs are borne by authors purchasing open access (Mukherjee, 2006).

²⁵ An example of this open source software is Open Journal Systems (Willinsky 2003) from the Public Knowledge Project with the principal technical development coming from Simon Fraser University Library (<http://pkp.sfu.ca>).

division of Stanford University Libraries, that has over 1,000 journals from which it is able to provide free access to 1.8 million articles, largely on the basis of delayed open access.

A common thread here, with Highwire Press at Stanford as well as Open Journal Systems at Simon Fraser University, is the new role being played by the university libraries. They are proving capable of developing publishing systems that stand as a viable alternative to commercial publishers. The library has long served as one of the principal public points of access for the larger community. It is the home of the institutional repositories in many cases. Library associations, such as the Association of Research Libraries and the American Library Association, have been active lobbyists for open access initiatives. It is tempting, then, to hinge the conclusion of this chapter on the central role that the library can play in increasing public access to knowledge.

In the first instance, a number of universities have set up offices of scholarly publishing in association with their libraries (e.g., Harvard University and University Michigan). Such offices are in an excellent position to offer faculty currently involved in and thinking about becoming involved in scholarly publishing suggestions and support that would lead to increased access and readership. The office could, for example, help with self-archiving policies. It could go a step further and work out financial models, utilizing locally or regionally supported open source technologies that would enable the journal to offer some measure of open access. The office could also offer to host the journal and assist with its implementation of this new model. Libraries at Rutgers, Vanderbilt, Emory, and Toronto are just a few of the universities that are already contributing to an alternative library-based publishing economy. In this way, a library-based publishing office can help small societies reduce their journal publishing costs, while helping them to institute some form of delayed open access to the journal's contents, with the net effect of improving the journal's financial situation, while providing a first potential step in the transition to a print-free, entirely open access, title.

There is, as well, a more radical version of library participation in scholarly communication. After all, libraries have every reason to support open access journals, but often end up not supporting them, of course, as there are no subscription fees. Any money saved goes, in effect, into the increased subscription prices charged by the commercial publishers for the journals they are acquiring. To take the next step, the

libraries, as the university's most public of assets, could move beyond forming consortia to bargain for better prices, to forming cooperatives that could engage with scholarly societies to support open access publishing of peer-reviewed journals. The libraries could contribute the equivalent of subscription fees to cover journal editing costs, in addition to providing hosting services and library-supported publishing software. As well, libraries can assist in the cataloguing and indexing of the journals to ensure the widest possible readership.²⁶

Libraries are also involved in supporting open access endowments, in the case of *Stanford Encyclopedia of Philosophy*, an online, open access, peer reviewed reference work of the highest caliber. In the course of raising a \$4 million endowment to ensure its sustainability, the encyclopedia has managed to secure commitments of \$15,000 from 75 of the 118 institutions which offer a doctorate in philosophy (in addition to major allocations from Stanford and the National Endowment for the Humanities). The libraries at these institutions recognize that they are primary benefactors of this work, with the open access it affords a bonus in the way of the library's public mission, rather than representing some sort of loss of proprietary interest in exclusive access. There is no reason that such imaginative approaches would not work for journals, particularly in association with scholarly societies. New models for creating public intellectual resources have been appearing both in the public sector, with *Wikipedia* the leading instance, and on the academic side with, for example, *The Encyclopedia of Life*.

The time is certainly right for those who would champion the research university's public mission to support new approaches to scholarly publishing that increase access to this knowledge. We have the technologies, the demonstration projects, and proven economic models that would enable research libraries to greatly increase the amount of research and scholarship that is publicly, globally available. Through author-archiving mandates and open access journals, there are ways of stocking the public sphere with a new wealth of intellectual resources. These are the resources, of course, that we hold are critical to education and that we work so hard to help our students critically engage with during their brief time with us. Having taught students how to think and reason using this body of knowledge, why would we not take

²⁶ SPARC has recently explored the fiscal power of publishing cooperatives through the perceptive economic analysis of Raym Crow (2006).

advantage of these new technologies to enable them, as well as others, to draw on this work and to help them see that this pursuit of knowledge is fully a part of a democratic culture? Such initiatives, I would reiterate, can only improve scholarly access to this work, while greatly increasing the university's contribution to the public sphere.

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