Removing the Barriers to Research: An Introduction to Open Access for Librarians

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The serials pricing crisis is now in its fourth decade. We're long past the point of damage control and into the era of damage. Prices limit access, and intolerable prices limit access intolerably. Every research institution in the world suffers from intolerable access limitations, no matter how wealthy. Not only must libraries cope by canceling subscriptions and cutting into their book budgets, but researchers must do without access to some of the journals critical to their research.

One might expect relief from digital technologies that allow the distribution of perfect copies at virtually no cost. But so far these technologies have merely caused panic among traditional publishers, who have reacted by laying a second crisis for libraries and researchers on top of the first. The new crisis is still in its first decade and doesn't yet have a name. Let me call it the *permission crisis*. It's the result of raising legal and technological barriers to limit how libraries may use the journals for which they have so dearly paid. The legal barriers arise from copyright law and licensing agreements (statutes and contracts). The technological barriers arise from digital rights management (DRM): software to block access by unauthorized users, sometimes with the help of special hardware. The permission crisis is a complex quadruple-whammy arising from statutes, contracts, hardware, and software.

I bring up these two crises because I will argue that *open access* will solve them both. Since the pricing crisis is already well-known, let me elaborate for a moment on the permission crisis. You know what you could do in a world in which the pricing

crisis were solved. Here's what you could do in a world in which the permission crisis were solved:[1]

- You would own, not merely license, your own copies of electronic journals.
- You would have the right to archive them forever without special permission or periodic payments. Long-term preservation and access would not be limited to the actions taken by publishers, with future market potential in mind, but could be supplemented by independent library actions.
- If publishers did not migrate older content, such as the back runs of journals, to new media and formats to keep them readable as technology changed, then libraries would have the right to do it on their own.
- Access and usage would not be limited by password, IP address, usage hours, institutional affiliation, physical location, a cap on simultaneous users, or ability to pay. You would not have to authenticate users or administer proxy servers.
- You would have the right to lend and copy digital articles on any terms you liked to any users you liked. You could offer the same services to users affiliated with your institution, walk-in patrons, users at home, visiting faculty, and ILL users.
- Faculty and others could donate digital literature and software without violating their licenses, and you could accept them without limiting their usability.
- All use would be non-infringing use, and all use allowed by law would also be allowed by technology. There would be no need for fair-use judgment calls and their accompanying risk of liability. There would be no need to err on the side of non-use. Faculty could reproduce full-text for students without the delays, costs, or uncertainties of seeking permission.
- You would not have to negotiate, either as individual institutions or consortia, for prices or licensing terms. You would not have to remember, consult, or even retain, complex licensing agreements that differ from publisher to publisher and year to year.
- Users who object to cookies or registration would have the same access privileges as other users. Anonymous inquiry would be possible again for every user.
- You would never have to cancel a subscription due to a tight budget or unacceptable licensing terms. Researchers would not encounter gaps in the collection corresponding to journals with unacceptable prices or licensing terms.

The pricing crisis means that libraries must pay intolerable prices for journals. The permission crisis means that, even when they pay, libraries are hamstrung by licensing terms and software locks that prevent them from using electronic journals in the same full and free way that they may now use print journals. (In general, the pricing crisis applies to both print and electronic journals, while the permission crisis only applies to e-journals.)

Together the two crises mean that libraries are paying much more in order to get much less. Together the two crises severely impede research. This is not just a problem for libraries and researchers. When research is impeded, so are all the benefits of research—from medicines and technologies to environmental health, economic prosperity, and public safety.

Thesis 1. Both the pricing and permission crises can be solved at one stroke by open access.

Open-access literature is defined by two essential properties. First, it is free of charge to everyone. Second, the copyright holder has consented in advance to unrestricted reading, downloading, copying, sharing, storing, printing, searching, linking, and crawling.[2] The first property solves the pricing crisis. The second property solves the permission crisis.

Both properties depend on the will of the copyright holder. Most copyright holders want to charge for access to their work (erect price barriers) and block access to those who haven't paid (erect permission barriers). But this is dictated by their economic interests, not by copyright law. They have the right to make price and permission barriers disappear if they wish. The secret of open access is to keep copyright in the hands of those who desire open access. There is no need to abolish, reform, or violate copyright law. (Because open access carries the copyright holder's consent, it should never be described as "Napster for science.")

If scientists and scholars transfer their copyright to a traditional publisher, then the publisher will typically not consent to open access. On the contrary, traditional publishers erect price and permission barriers precisely to prevent open access. However, if authors retain copyright, then they will consent to open access, at least for the research articles for which they expect no payment. If they write for impact and not for money, then they want the widest possible dissemination of their work, which requires that their work be online free of charge and free of the usage limitations imposed by most licensing terms. Copyright holders who consent to open access will dispense with price and dispense with DRM.[3]

If open access reduces pricing and permission barriers to zero, then it clearly solves both crises. Moreover, it does so efficiently, completely, and lawfully. Other remedies to the same problems are either legally dubious, such as circumventing DRM, or arduous and incomplete, such as copyright reform or anti-trust action against publishing conglomerates.

If open access provides such an elegant solution to these otherwise intractable problems, then one may well wonder whether it is too good to be true. Can we put this theory into practice? Is it feasible? Is it quixotic?

Thesis 2. Open access is definitely attainable for scientific and scholarly journal literature, the body of literature primarily affected by the pricing and permission crises. It has already been attained for a growing portion of this literature.

Three facts make open access attainable for this special body of literature. First, authors of scientific and scholarly journal articles do not demand payment for their work. They willingly publish in journals that pay no royalties, and they have done so for three centuries. Second, the internet allows distribution of perfect copies at virtually no cost to a worldwide audience. We can seize rather than fear the opportunities it creates. Third, when the author retains copyright and consents to open access, then there are no legal barriers whatsoever to open access.

The only thing new here is the internet. In the age of print, open access was physically and economically impossible, even if the copyright holder wanted it. The cost of print publication was substantial and had to be recovered, so that journals necessarily existed behind a price barrier. Insofar as this limited access, the limitations were forgivable, even if harmful to research. But these limitations are no longer necessary, and hence, no longer excusable. As the Budapest Open Access Initiative[4] puts it, "An old tradition and a new technology have converged to make possible an unprecedented public good."

If it still sounds quixotic, consider what open-access proponents are *not* advocating. We do not call on scholars to shun priced or printed journals, either as authors, editors, referees, subscribers, or readers, nor do we call on libraries to cancel or deaccession them. We do not call for research literature to be put into the public domain or for the abolition of copyright. (For the narrow purpose of attaining open access, we do not even call for the reform of copyright.) We do not call for open access to anything other than scientific and scholarly research literature. For example, we do not call for open access to music, movies, or software. We do not even call for open access to all forms of scholarly literature, for example, books which their authors hope will generate revenue. The call is limited to peer-reviewed research articles and their preprints. We do not call for self-publishing to the internet, if that bypasses peer review. We do not call on libraries to change their serials policies, since they already take price into account alongside other criteria like usage and impact. We do not call for readers or libraries to boycott any kind of literature or any kind of publisher.

The attainability of open access depends on the key distinction between literature that authors consent to distribute without payment and literature on which authors hope to make money. All authors, artists, and creators have a right to make money from their work, and we do not criticize anyone for trying. But when authors choose to give their work away, then readers should get the full benefit of their generosity. Opening access to readers would also repay authors by giving them the enlarged audience and impact for which they sacrificed revenue. Intermediaries wishing to erect price and permission barriers between authors and readers serve neither, harm both, and enrich only themselves. Authors and readers should bypass them.

The internet makes this possible for the first time in history. This is true partly because of the nature of the internet and partly because of the nature of journal literature. Scholars write the articles, edit the journals, and provide the peer review. We can create the archives and launch the journals that finally give life to open access. Bypassing the price and permission barriers that obstruct research is entirely in our hands. If we had to persuade publishers to give up their revenue streams, or legislatures to reform copyright law, then we'd be no further along than we were in the age of print. But with the internet now at hand, open access depends only on the initiative of scholars.

In short, there is a serious problem, known best to librarians, and a beautiful solution, within the reach of scholars.

[…]

[O]pen-access archives and journals provide open access because the copyright holder authorizes it, not through a vigilante action that violates the copyright holder's will.

We do not call for open access to research articles because they are useful (as if everything useful should be free) or because their costs are low (as if everything inexpensive should be free). We call for open access to research articles because they have the relevant peculiarity that their authors write for impact, not for money, want the widest possible dissemination for their work, and consent to open access. Here is a body of work that is *very useful and very inexpensive*. It's not free to produce, but a very small subsidy will make possible a very large public good.

Who will pay this subsidy? Open-access archives can easily be supported by the institutions hosting them. The cost is trivial, and there is a direct benefit to any institution that hosts an archive for the research output of its faculty. Open-access journals have more substantial costs, but can cover them by charging the author's sponsor (employer or funder) rather than the reader's sponsor (library). It's novel for an institution to pay for outgoing articles rather than incoming articles, but it's natural to consider the cost of dissemination just another cost of research, and in the long run paying for dissemination will cost institutions much less than paying for access. Moreover, of course, the result is that the full cost of dissemination is covered so that worldwide access can be free of charge.

BioMed Central[10] is just one publisher proving that this business model can work for authors, readers, and their institutions. BMC proves that institutions will pay dissemination fees in order to enhance the impact of their employees' research, and to be spared access or subscription fees to the same literature. It also proves that open-access publishing can do more than cover its costs: it can actually generate a profit. Open-access publishers can also sell priced add-ons to the essential literature, provided that the essential full-text literature is still free of pricing and permission barriers.[11]

Open-access methods of funding journals are novel but already in use and proving themselves. However, if the novelty causes trepidation, then by all means compare these methods carefully to the "tried and true" model we are using today, which takes literature written by authors donating their labor, and vetted by editors donating their labor, and locks it away behind price and permission barriers so that even the world's

wealthiest institutions cannot assure their faculty full access to it. This is not done for the sake of long-term preservation, since the permission barriers worsen the problems of preservation. It's not done to profit authors, readers, or their institutions, since it harms all three, but to profit third parties with no creative role in the research or the writing.

The benefit of open access to libraries is solving the pricing and permission crises. The benefit to scholars, beyond the benefit to libraries, is giving readers barrier-free access to the literature they need, and giving authors larger audiences and greater impact. Because the benefits on both sides are immense, librarians and scholars should work together to bring open access, step by step, to every institution and discipline.

There's a lot that librarians can do[12] and a lot that scholars can do[13] to help this cause. If I'm right that librarians have the best understanding of the problem, and that scholars control the solution, then collaboration is highly desirable. Journal publishers have shrewdly seen an opportunity to make money even in the age of the internet, and have seized it. However, their business strategy limits access to knowledge and slows research. In response, let's be as shrewd as the publishers. The internet has given scholars and librarians an unprecedented opportunity to save money and advance their interests at the same time. We should simply seize it. What are waiting for?

Notes

1. This list only applies to the literature *for which* the permission crisis is solved. In my terms, it only applies to open-access literature, not to all literature. The items in the list overlap somewhat, not only with one another, but with items bearing on the solution to the pricing crisis.

2. The only constraint that authors might want to enforce is that no one should distribute mangled or misattributed copies. This is a reason for authors to retain copyright. Authors who don't care to enforce these constraints, or who live in moral-rights countries where they are enforceable even without copyright, could put their works into the public domain.

3. Some friends of open access want to use DRM in harmless forms—forms that do not restrict access—in order to measure traffic and provide data for usage and impact analysis.

4. Budapest Open Access Initiative.

http://www.soros.org/openaccess/

10. BioMed Central.

http://www.biomedcentral.com/

11. For more on the funding model for open-access journals, see
Budapest Open Access Initiative FAQ

http://www.earlham.edu/~peters/fos/boaifaq.htm

Peter Suber, "Where Does the Free Online Scholarship Movement Stand Today?" *Cortex*, 38, 2 (April 2002), pp. 261–264.

http://www.earlham.edu/~peters/writing/cortex.htm

Excerpt: "There are many successful and sustainable examples in our economy in which some pay for all, and those who pay are moved by generosity, self-interest, or some combination. Either way, they willingly pay to make a product or service free for everyone rather than pay only for their own private access or consumption. This funding model, which works so well in industries with much higher expenses [such as television and radio], will work even better in an economic sector with the nearly unique property that producers donate their labor and intellectual property, and are moved by the desire to make a contribution to knowledge rather than a desire for personal profit."

Peter Suber, "Open Access to the Scientific Journal Literature," *Journal of Biology* 1 (1) (June 2002): 3f.

http://www.earlham.edu/~peters/writing/jbiol.htm

Excerpt: "Publishers adopt open access not to make a charitable donation or political statement, but to provide free online access to a body of literature, accelerate research in that field, create opportunities for sophisticated indexing and searching, help readers by making new work easier to find and retrieve, and help authors by enlarging their audience and increasing their impact. If these benefits were expensive to produce, they would nevertheless be worth paying for —but it turns out that open access can cost much less than traditional forms of dissemination. For journals that dispense with print, with subscription management, and with software to block online access to non-subscribers, open access can cost significantly less than traditional publication, creating the compelling combination of increased distribution and reduced cost."

12. Details on what librarians can do:
What librarians can do to facilitate open access in general

http://www.soros.org/openaccess/help.shtml#libraries

What librarians can do to facilitate eprint archiving in particular

http://www.eprints.org/self-faq/#libraries-do

Answering some library-specific questions and objections about open-access, reprinted in Walt Crawford's Cites and Insights, November, 2002, pp. 12–14,

http://citesandinsights.info/civ2i14.pdf

[*Added 2/1/03*. The BioMed Central open-access advocacy kit for librarians

http://www.biomedcentral.com/info/about/advocacy?for=librarians]

[*Added 2/1/03*. When librarians write scholarly papers, they should post the preprints and if possible the postprints in open-access archives. There are two devoted to library and information science:

E-LIS (E-Prints in Library and Information Science)

http://eprints.rclis.org/

DLIST (Digital Library of Information Science and Technology)

http://dlist.sir.arizona.edu/]

13. Details on what scholars can do:
What scholars can do to facilitate open access in general

http://www.soros.org/openaccess/help.shtml#scholars

What scholars can do to facilitate eprint archiving in particular

http://www.eprints.org/self-faq/#researcher/authors-do

Two sources for both librarians and scholars (both already cited in note 11):
Answering questions and objections about open access in general (the BOAI FAQ)

http://www.earlham.edu/~peters/fos/boaifaq.htm

Answering the eight most common questions and objections about open access

http://www.earlham.edu/~peters/writing/jbiol.htm

[*Added 2/1/03*. The BioMed Central open-access advocacy kit for researchers

http://www.biomedcentral.com/info/about/advocacy?for=researchers]

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http://www.earlham.edu/~peters/writing/acrl.htm