The Library as an Agent for Transforming Scholarly Communications

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The Crisis : introduction

The so-called "crisis" in scholarly publishing is well documented. The cost of electronic journals increases at a rate four times greater than the rate of inflation. Library budgets diminish and face greater pressure to justify acquisitions expenditures. Publisher consolidation puts greater control in the hands of a few while limiting the choices available to consumers. License terms grow increasingly restrictive, threatening the intellectual property rights of authors. A landscape emerges in which the public cannot gain access to the research that their tax dollars have funded, authors are denied the right to use the literature that they themselves have created, and libraries are unable to meet the research needs of their constituents.

The growing response to this disheartening environment centres on open access. Its impact can be gauged from the intensity of the reactions it engenders. Whether it is the fear and hostility from some commercial publishers or the passion of its strongest advocates, it is clear that the open access movement is having a significant impact on researchers, authors, libraries and publishers. The impact arises from open access journals as well as open access repositories.

New opportunities and new challenges face scholars in the 21st century as traditional publishing models evolve and alternative models emerge; however, scholars who are focused on their discipline and the demands of tenure, promotion and teaching do not have the time to be adequately informed about new publishing models, author rights and the complexities of copyright legislation within the shifting environment of scholarly communications.

This is where the library can step in as an invaluable partner. The library can educate faculty and promote practices that are in the faculty member's own best interest. The library can offer consultation and advocacy in negotiating author agreements and finding appropriate publishing venues. The library can undertake activism to ensure better protection of intellectual property and more exposure to the published work. In addition, the library can undertake local open access publishing and promote author recognition.

The Response : open access

The open access movement holds great potential to enable published research to have a deeper and wider impact on society as a whole. As more people gain access to the world's highest quality scholarly research, including people in the developing world and those not associated with large institutions, new levels of knowledge transfer can flourish. Research from different regions and disciplines can more readily inform and influence each other. All indications are that the volume and prestige of open access publishing are gaining ground.

> Removing access barriers to this literature will accelerate research, enrich education, share the learning of the rich with the poor and the poor with the rich, make this literature as useful as it can be, and lay the foundation for uniting humanity in a common intellectual conversation and quest for knowledge. [1]
>
> - Budapest Open Access Initiative

That open access better enables the products of research to impact other scholars and the world as a whole is a fact that has not been lost on funders. As Chris Armbruster wrote in 2006, "Moreover, public and philanthropic funding will flow in the future only if public visibility and academic impact of the research results can be demonstrated." [2] Indeed, funders are increasingly mandating that the results of the research they fund must become open access, whether on the green (self-archiving) or the gold (open access publishing) road. Authors must take note of this development but they should also celebrate it as their own work will have unprecedented visibility and impact.

> We found strong evidence that, even in a journal that is widely available in research libraries, OA articles are more immediately recognized and cited by peers than non-OA articles published in the same journal. [3]
>
> - Gunther Eysenbach

Eysenbach and Steven Harnad have both produced insightful research on the citation advantage of open access. In his findings published in 2006 Eysenbach reported that open access articles are twice as likely to be cited in their first 4-10 months after publication.

Just as scholars can have greater impact by opting for open access, so too can their institutions have greater impact by endorsing open access. A most compelling example of this phenomenon is found at the University of Southampton, where the department of Electronics and Computer Science has mandated self-archiving since 2001. Southampton has had a university-wide mandate since 2006. Recent rankings of quality and impact of research have scored Southampton higher than many larger and more prestigious universities. They attribute their high rankings in part to the greater impact that results from their open access policies. [4]

An article by Jim Giles in *Nature* from January of this year provides a perspective on how open access is threatening the traditional publishing model. The article was titled

"PR's 'pit bull' takes on open access : journal publishers lock horns with free-information movement". [5] The pit bull with horns is Eric Dezenhall, the PR agent who tried to salvage the reputation of Jeffrey Skilling, former chief of Enron, and also worked for ExxonMobile in action directed at Greenpeace. Giles reports that Dezenhall was enlisted by publishers such as Elsevier, Wiley and the American Chemical Society to advise them on a campaign to discredit open access. This action was justified by Barbara Meredith, VP of the Association of American Publishers, saying "It's common to hire a PR firm when you're under siege." Actually, very few in the open access movement seek to undermine commercial publishers but they do seek to provide an alternative and, in doing so, to encourage publishers to rethink their pricing and licensing strategies.

The transformation is not only at the access extremity. PLoS (Public Library of Science) One has introduced a transformative model at the peer review stage. Rather than invoking rigorous peer review prior to acceptance, PLoS One has shifted peer review to the realm of social networking. All submissions are published, contingent on passing a basic validation of the research methodology. Submissions are then sifted for quality based on readers' comments, downloads and citation analysis. "We're trying to make a journal where papers are not the end point, they are the start of a discussion." (Chris Surridge) [6] *Nature* has given further support to this model by offering authors the option of supplementing traditional peer review with simultaneous open public review. This trend recalls the exciting work emerging from the Institute for the Future of the Book where a book's draft is opened to user-contributed content. "It was our goal from the beginning to place the book and its discussion on an equal footing." (Bob Stein) [7]

One of the major criticisms that confronts open access journals is that they are not economically sustainable. A report from the Association of Learned and Professional Society Publishers states that over 40% of open access journals are not covering their costs. [8] The most common form of cost-recovery employed by open access journals is a fee paid by authors upon submission. In many cases, however, the expense of publishing open access journals is off-set by other benefits to the sponsoring organization. In the case of universities, local publication of high-quality, peer-reviewed open access journals increases the institution's profile and may contribute to recruitment of faculty and students. In the case of scholarly societies, while many have historically depended on journal revenue for their survival, there is some evidence to suggest that the increased exposure that results from open access can result in membership growth and even increased sales of print subscriptions. [9]

Commercial publishers are increasingly offering an open access alternative to authors. This usually entails a fee paid by the author in order to mount the submission as open access. Blackwell, Oxford University Press, and Springer are some of the earliest publishers to adopt a hybrid model. Other publishers, including Elsevier, have exposed selected journals outside of the normal license requirements once a specified embargo period has elapsed. These are all encouraging signs suggesting that a range of options will be available to publishers, authors and subscribers.

On the other hand, some publishers have had a more cynical response to the pressure being exerted by the open access movement. While increasing numbers of publishers allow authors to self-submit their intellectual property in a local repository, the American Chemical Society has begun charging authors for this right.

The American Chemical Society aside, the green road has been widely accepted by publishers as a viable compromise that does not threaten their revenue base. According to my analysis of the data posted on the SHERPA/RoMEO site,[10] 74% of publishers allow self-archiving with some variant of pre-print or post-print limitations on the version. In this area, convincing the publishers may prove to be an easier task than convincing faculty.

Faculty also need to be more aware of their intellectual property rights and how easily those rights can be given away when inadequate attention is paid to publishers' agreements. Unreasonable terms are often signed because authors are too busy to read the agreements in detail and because they are simply grateful to be published. Also, the right to use their own writing for pedagogy or as a basis for subsequent research seems so obvious it doesn't occur to them that they could be signing that right away. Most publishers are not adamant about these terms so a bit of attention on the author's part can go a long way to rectifying the situation.

The Agent : libraries

Many faculty members are unaware of the problems inherent in the commercial world of scholarly publishing, with respect to either the economics or the intellectual property issues. Of those who are aware, few understand the emerging alternatives. The first call-to-action for most libraries is in the area of education and promotion; however, while libraries are first and foremost concerned about the economic crisis, they will find that those arguments do not have the same immediacy with faculty. More compelling arguments are framed within the context of increased impact. Faculty should appreciate the growing trend for funders to encourage or even demand that the products of their research dollars will be open access.

A significant part of the work facing libraries in promoting a scholarly communications agenda is confronting the concerns and misconceptions of faculty. Christopher Gutteridge, the lead developer of *ePrints*, provides an excellent breakdown of the reasons faculty resist self-archiving in an open access repository. [11] Many of these concerns apply equally well to the gold road, open access journals. The concerns include: fear of violating copyright, fear of undermining the peer review process, fear that learned societies and/or commercial publishers will be jeopardized, and fear that plagiarism will be facilitated.

Librarians who are familiar with the open access movement can readily address these concerns especially if they are armed with resources that summarize the issues, document research findings, and provide citations to more detailed information. In most cases, faculty's concerns are bred by a lack of familiarity with the alternative models. It is not generally a hard sell to change them from sceptics into advocates. Librarians must be prepared to transition quickly from providing the arguments for open access to responding to immediate concerns expressed in questions like "what should I be doing?" Two of the most immediate answers should be: "self-archive your publications" and "consider publishing in open access journals".

A more challenging situation is dealing with faculty who are themselves editors of a journal published by a scholarly society. As has been noted, many scholarly societies depend on journal subscriptions for their fiscal sustainability. In many cases, societies see the journal as the main incentive that encourages scholars to pay for membership with the society. More research on the relationship between open access and journal revenue is needed but there are indications that societies may be further ahead by forgoing subscription revenue while gaining the higher profile that comes with an open access publication. D.K. Sahu reports that open access may increase the sale of print subscriptions. [12]

In addition to research on the impact of open access to scholarly societies, there is a need for business analysts to work with societies to develop business models that will inspire confidence. They need to demonstrate that moving to open access will not jeopardize the societies but actually usher in a new stage of growth and prominence. Librarians can

facilitate this process by being aware of the range of options available to publishers and editorial boards.

The library can also play an important advocacy role to ensure that authors sign copyright transfer agreements that properly recognize the author's intellectual property rights. At many institutions the focus for this activity takes the form of author addenda that accompany the publisher's standard agreement. An addendum may address the author's rights to self-archive the text and/or to assign a creative commons license specifying how it can be used by other researchers. The library can provide a template and assist the author in crafting an agreement that will meet her/his needs.

At the 2006 ARL/ACRL Institute on Scholarly Communications, John Ober led a session on legislative and policy advocacy. He argued persuasively that libraries should engage in policy deliberations in the broader context. Libraries can promote open access, author rights and fairer prices by urging government, funding bodies and publishers to develop more supportive policies. In the United States, libraries should be signing petitions in support of the Federal Research Public Access Act. In Canada, libraries had an opportunity to take a stand when SSHRC (Social Science and Humanities Research Council) undertook a national consultation on open access. One example of activism directed at publishers was in 2004 when the University of California's faculty threatened to boycott Elsevier journals as authors, editors and reviewers in order to get more reasonable pricing. Another example is MIT's decision this year to cancel a subscription rather than accept imposition of Digital Rights Management that would have introduced more restrictive use of, and access to, the resources. Libraries need to work outside of their own walls to create a better environment for scholarly communications.

Many academic libraries are also turning to local open access publishing activities. This may involve initiating new journals or it may mean the transformation of print or subscription journals to an online, open access model. These journals may be the product of a department on campus or they may be the product of a scholarly society with connections to the host institution. These ventures not only contribute to the global open access movement, giving researchers an alternative to commercially-published titles, but they also play a strong role in increasing faculty awareness of the evolving nature of scholarly communications.

All of these areas of work have been on library agendas for some time; what is emerging in recent years is the phenomenon of bringing these streams into a coordinated programme of scholarly communications. Some institutions have established organizational units dedicated to scholarly communications, some have staff members who are dedicated full-time to scholarly communications, some have simply formalized a strategic programme on scholarly communication. However it is approached, the formalization of scholarly communications as a strategic activity can bring a higher profile to the issues and greater coordination of effort.

The Context : Canada

Canada has played a strong role in the open access movement but it has been a bottom-up. While Canadian individuals have made outstanding contributions, progress at the national level has been more tentative.

The Canadian Library Association Information Commons Interest Group points out that "at the first major international gathering of the open access movement, the Budapest Open Access Initiative, three of the 13 original participants and signatories to the initiative are Canadian. In alphabetical order, these are Leslie Chan, Jean-Claude Guédon, and Stevan Harnad." [13]

Leslie Chan is the Associate Director of Bioline International, a service which provides open access to research journals in developing countries. Jean-Claude Guédon, one of the earliest advocates of open access, is on the Board of Directors of the Open Society Institute's Information Program. Stevan Harnad, another early open access activist, conducted pioneering work in the development of OAI-compliant institutional repositories.

One of the major victories for open access in Canada was the policy statement from the Canadian Institutes of Health Research, the major federal agency responsible for funding health research in Canada. [14] The policy dictates that all CIHR-funded research outputs must be made open access either through deposit in a repository or publication in an open access journal. A publisher embargo of no more than six months is deemed acceptable. SPARC (Scholarly Publishing and Academic Resources Coalition) commended the policy, saying it "puts Canada in the forefront of the global open access movement." [15]

Canada's major federal granting agency for research in the social science and humanities is the Social Science and Humanities Research Council (SSHRC). SSHRC undertook a major public consultation on open access in 2005. The result of that consultation is a strong endorsement of open access but SSHRC decided to eschew mandatory open access. Instead, they opted to focus on promotion of open access in principle and incorporation of open access provisions in their research support programmes.

The Canadian Association of Research Libraries (CARL) plays a lead role in the coordination, support and promotion of institutional repositories in Canada. One of CARL's most progressive initiatives is the CARL harvester. It harvests metadata from participating institutional repositories, providing a central locus for search and retrieval and, as a by-product, enabling them to analyse metadata practices across the country. This study of metadata assists CARL in the development of metadata application profiles for Canadian repositories.

AlouetteCanada is the backbone of digital initiatives on the national level. It seeks to facilitate the creation, preservation and dissemination of digital resources that represent Canada's cultural heritage. Its main contributions to date come from the Technical Committee, which has developed the Metadata Toolkit. The toolkit is a combination of

software, standards and best practices to assist in generating metadata for digital collections. Unlike many national and international metadata efforts, the Toolkit encompasses descriptive, structural, administrative and preservation information in one comprehensive standard.

Synergies is a new national initiative seeking to preserve and provide access to Canada's wealth of scholarly output in the social sciences and humanities. Much of this research is still published in print journals in Canada, so a major part of the initiative is to enable worldwide exposure by putting the journals online. Synergies is establishing a national infrastructure around four regional nodes and based on three primary platforms: Érudit from Laval and OJS (Open Journals System) from PKP (Public Knowledge Project) for open access journal publishing, and DSpace for repository submission. In addition to the infrastructure, Synergies seeks to aggregate this decentralized content in an integrated national repository of journal literature.

Creative Commons Canada was founded in 2003 to adapt the Creative Commons to the unique Canadian situation. The objective is to balance the interests of the creator with the interests of the public by reserving certain rights while encouraging other uses of the creative work. Control is put in the hands of the creator rather than the publisher or distributor.

The Case : the University of Guelph Library

In December 2006 a team from the University of Guelph library attended the ARL/ACRL Institute on Scholarly Communication. This is an intensive workshop experience designed to help libraries develop campus outreach programmes. The institute features modules on faculty activism (e.g. editorial board control, author rights, copyright management, and self-archiving), new publishing models, digital repositories, and legislative and policy advocacy. We returned from the Institute and began formalizing a new strategic initiative around scholarly communications.

> The University of Guelph Library has recognized the importance of supporting the transformation of scholarly communication for some time. As a result we are engaged in many activities that support this transformation. However, what we lack is a cohesive program to guide our actions and engage the University. [16]

Since 2004 we have been supporting the local publication of peer reviewed open access journals. Our first journal was *Critical Studies in Improvisation / Études critiques en improvisation*. [17] The journal explores ways that "innovative performance practices play a role in developing new, socially responsive forms of community building." This partnership between the library and the University of Guelph College of Arts has been a great success in a number of ways. The journal itself has received international acclaim, the venture has built some strong ties between the library and the College, and are now some very strong advocates on campus for open access.

Guelph Ichthyology Reviews, [18] which had been published in hard copy since 1990, was migrated to the online environment along with scanned versions of the back issues. We are in the midst of a similar process with a scholarly society journal titled *International Review of Scottish Studies*.

Another journal that will be introduced in September of 2007 is an interdisciplinary journal of undergraduate research. It will recognize and encourage the accomplishments of our undergraduate students, and will teach them about the rigors of publishing in an academic, peer-reviewed publication. Development of research skills in undergraduates is a strategic goal of the university and so this journal fits nicely in that context.

Finally, we also host *Partnership: the Canadian Journal of Library and Information Practice and Research*, [19] a journal focusing on best practices from the various provincial and territorial library associations of Canada.

As a member of the Ontario node of Synergies we actively encourage and support journal publication by other academic libraries throughout the province.

We are excited about an initiative that was launched last year, a campus author recognition programme. This will be an annual event in which campus faculty and staff members, students, retirees and alumni who have published a book within the year will be honoured. Their books are featured on a web site and on posters and, at the event

itself, the president of the university greets the authors and presents each of them with a token of appreciation. The programme is intended to celebrate the contributions made by our campus community but it also builds links between the library and faculty and encourages faculty to recognize the library as a partner in their publishing ventures. The programme is also highlighted at the annual orientation event for new faculty so that the library can start building productive relationships with faculty from the outset. In its first year the programme honoured fourteen books and this year we are up to 66 books and counting.

The major challenge facing our Scholarly Communications programme is reaching out to faculty and engaging them in the process so that we can begin to make a positive impact in their experience as authors. This will involve our team of liaison librarians who already have a strong relationship with faculty in their disciplines. One of our liaison librarians has been dedicated to a one-year intensive initiative to engage faculty in conversation to explore ways that the library can augment and improve our support for research and teaching. In many cases, outreach to faculty will need to begin with an education component, focusing on the problems in scholarly communications and on the alternatives that can make a difference. We will be developing support materials such as a web presence and an FAQ-type brochure to help get the message out. The next stage, after education, is one of advocacy where we can start working on behalf of faculty to ensure they approach their publishing activities in an environment of empowerment and choice.

Other components of our Scholarly Communications programme include an institutional repository, digital collections initiatives, and participation in consortial licensing negotiations at the national, provincial and regional levels.

The Opportunity : transformation

It can be said that every crisis is an opportunity, although it is often difficult to maintain this perspective. In the case of the crisis in scholarly communications it is not difficult to see the upheaval as a welcome process, leading to a bright new world. Open access does have a potential to play a transformative role in society as a whole; the factors have aligned to create a climate where open access can gain maximum traction. Authors can be empowered as they've never been before. Libraries can emerge in a dynamic new role as champion of author and reader rights. And society itself can gain unprecedented access to new knowledge.

In the coming years, academic libraries can play a significant role in promoting the maturation of the open access movement, particularly in the area of economic sustainability. It is hoped that coincident evolutions will occur in the commercial publishing sector with policies and pricing that are more responsive to the needs of authors, researchers and libraries. We can hope for a range of viable choices for all concerned.

End Notes

[1] "Budapest Open Access Initiative" (2002). Available: http://www.soros.org/openaccess/read.shtml (accessed August 24, 2006).

[2] Chris Armbruster, "Open Access in Social and Cultural Science: Innovative Moves to Enhance Access, Inclusion and Impact in Scholarly Communication" (November 15, 2005). Available: http://ssrn.com/abstract=849305 (accessed April 21, 2007).

[3] Gunther Eysenbach, "Citation Advantage of Open Access Articles". *PLoS Biology* 4(5): e157 (2006). Available: http://biology.plosjournals.org/perlserv/?request=get-document&doi=10.1371/journal.pbio.0040157 (accessed April 21, 2007).

[4] Stevan Harnad, "IUScholarWorks: Maximizing and Measuring Research Impact Through Open Access Mandates and Metrics" (2006). Available: http://vw.indiana.edu/talks-fall06/harnad-indiana-policy.ppt (accessed April 10, 2007).

[5] Jim Giles, "PR's 'pit bull' takes on open access : journal publishers lock horns with free-information movement", *Nature*, vol. 445, no. 7126 (January 24, 2007). Available: http://www.nature.com/nature/journal/v445/n7126/full/445347a.html (accessed March 31, 2007).

[6] Jim Giles, "Open-access journal will publish first, judge later", *Nature*, vol. 445, no. 7123 (January 3, 2007). Available: http://www.nature.com.cerberus.lib.uoguelph.ca/nature/journal/v445/n7123/full/445009a.html (accessed April 21, 2007).

[7] Institute for the Future of the Book, "GAM3R 7H30RY / McKenzie Wark / Version 1.1" (2006). Available: http://www.futureofthebook.org/gamertheory/?page_id=2 (accessed April 21, 2007).

[8] The Association of Learned and Professional Society Publishers, *The Facts about Open Access : a study of the financial and non-financial effects of alternative business models for scholarly journals,* Clapham, U.K. (2005).

[9] Kate Worlock, "Open access and learned societies", *Nature*, 2004. Available: http://www.nature.com/nature/focus/accessdebate/8.html (accessed April 24, 2007).

 [10] University of Nottingham, *SHERPA/RoMEO* (2006). Available: http://www.sherpa.ac.uk/romeo.php (accessed April 21, 2007).

[11] Christopher Gutteridge, "Self-Archiving FAQ for the Budapest Open Access Initiative (BOAI)", EPrints. Available: http://www.eprints.org/openaccess/self-faq/#32-worries (accessed April 21, 2007).

[12] DK Sahu, "Open access publishing in the developing world: economics and impact". In: *Asia Commons: Asian Conference on the Digital Commons*, 6-8 June 2006, Bangkok, Thailand. Available: http://openmed.nic.in/1598/ (accessed April 21, 2007).

[13] Canadian Library Association Information Commons Interest Group, "Canadian Academic Leadership in the Open Access Movement". Available: http://www.infocommons.ca/wiki/index.php?title=Open_Access (accessed April 21, 2007).

[14] Canadian Institutes of Health Research, "Draft Policy on Access to CIHR-funded Research Outputs" (2007). Available: http://www.cihr-irsc.gc.ca/e/32326.html (accessed April 21, 2007).

[15] SPARC, "SPARC, CARL Commend new policy for public access to outputs of Canadian research" (2006). Available: http://www.arl.org/sparc/media/06-1128.html (accessed April 21, 2007).

[16] University of Guelph Library, "Transforming Scholarly Communication: a Program Proposal" (2007).

[17] University of Guelph, School of Fine Art and Music, *Critical Studies in Improvisation / Études critiques en improvisation.* Available: http://www.criticalImprov.com (accessed April 21, 2007).

[18] University of Guelph, Axelrod Institute of Ichthyology, *Guelph Ichthyology Reviews*. Available: http://gir.uoguelph.ca (accessed April 21, 2007).

[19] The Partnership, *Partnership: the Canadian Journal of Library and Information Practice and Research*. Available: http://www.partnershipjournal.ca (accessed April 21, 2007).