Fact Sheet: The Open Access Movement

Public Library of Science (PLoS) Definition of Open Access:

"Open-access (OA) literature is digital, online, free of charge, and free of most copyright and licensing restrictions." **Peter Suber**

Open access (OA) is one of the more controversial publishing movements of the digital age, and generates debate and considerable disagreement among scholars, scientists and librarians. OA is linked to a number of electronic publishing trends, including Web 2.0 and digitization. However, its central tenet is quite simple; that is, published information should be freely available to anyone who needs it regardless of their ability to pay for it. The idea of uncomplicated and open access is central to the OA movement and is often closely linked to the access philosophies of librarianship. There are a number of OA advocates and leaders in Canada (many of them librarians) and elsewhere but John Willinsky and Stevan Harnad are two prominent Canadians.

Open Access vs. Traditional Publishing

The conventional process of scholarly publishing requires that authors submit their research articles to journal publishers (for-profit businesses) regardless of whether they have been financed by public funds. Publishers then put submitted articles through a rigorous critical appraisal process called peer-review. During peer-review, the publisher acquires the copyright to a manuscript and its authors retain intellectual property rights. *Once published,* publishers are able to charge fees to access this research, and they bear the costs of peer review as well as the associated editorial, distribution and maintenance costs. Many journals argue that publishing is expensive and is reflected in subscription costs. Because libraries are also *institutional subscribers, we pay a premium to access these journals, and our costs are* anywhere from two to twelve times what individuals pay. While profitable for publishers, *this practice* puts a considerable burden financially on libraries and other public institutions that need to provide this information. Effectively, our public institutions are paying for scientific research twice: once in the form of taxes allocated via research grants, and again as publishers charge for access to the research funded by these grants.

Put simply, OA proposes a more efficient dissemination model that provides access to publicly-funded research openly and free of charge - an idea that has considerable merit in the information age. Pritpal S. Tamber, a medical editor with OA journal BioMed Central, suggests that "Clinical research is often conducted on members of the public, performed by clinicians trained with public money, hosted in public institutions, and often funded by public money, so it seems absurd that the results should not be publicly available."[1]

The OA model was created to remove barriers to accessing the scientific literature and to maximize knowledge-transfer. It is vital that scholars are aware of current research being

conducted within their field of specialization so that they may build on the research that has already been conducted to make further progress. This is especially true in the medical field. Proponents of Open Access argue that such progress is best facilitated by allowing researchers unlimited access to peer-reviewed articles.

Many OA movements have adopted an "Author Pays" model in which authors must pay to have their research published but retain the copyright. However, this approach has understandably raised concerns about the ethical implications of "buying credibility" (i.e. the decision to publish a research paper is determined as much by the ability of the author to pay as the actual merits of the study) and the loss of an effective peer review process. Journals with a high impact factor may feel that they can charge much higher fees than smaller scholarly publications. If authors of innovative research studies cannot afford to publish in refereed journals, the results could be disastrous. The systematic peer-review mechanism which is provided by these journals is essential to the filtering out of weak or flawed studies from the body of scientific knowledge. This mechanism ensures that the information published in scholarly journals meets certain universal standards of quality and accuracy. Though the success of the Author Pays model depends upon the willingness of researchers (or their sponsoring institutions) to incur significant costs, author fees which facilitate Open Access for an article provide certain benefits as well. Open Access articles are generally cited a great deal more than comparable articles which are not OA. The more an article is cited by scholars, the more prestige and financial remuneration the original author receives (increased citations often lead to increased grants and salaries). Thus, the Author Pays model can be cost-effective and professionally advantageous for authors while facilitating universal access to research literature.

In Canada, this movement has driven the development of projects such as Open Journal Systems by the Public Knowledge Project, as well as the acceptance of numerous resolutions and initiatives by governments and research institutes to implement Open Access to the products of publicly funded research. Recently, the Canadian Institutes of Health Research (CIHR) unveiled a new policy to promote open access to the results of research it has funded http://www.irsc.gc.ca/e/34846.html.

For a historical timeline of milestones in the OA movement please visit http://www.earlham.edu/~peters/fos/timeline.htm

An OA reference Wiki called the Open Access Directory (OAD) has been created by Peter Suber and Robin Peek. It is available at http://oad.simmons.edu.

Definitions and Suggested Strategies to Achieve OA

The term "Open Access" has many definitions. The so-called "BBB definitions" are the three most commonly used to describe the concept of Open Access:

- Budapest (February 2002)
  http://www.soros.org/openaccess/read.shtml

- Bethesda (June 2003)
  http://www.earlham.edu/~peters/fos/bethesda.htm

- Berlin (October 2003)
  http://oa.mpg.de/openaccess-berlin/berlindeclaration.html

OA was first defined during a meeting of open access advocates in Budapest. "By 'open access' to this literature [*primarily peer-reviewed journal articles, as mentioned earlier in the Initiative*], we mean its free availability on the public internet, permitting any users to read, download, copy, distribute, print, search, or link to the full texts of these articles, crawl them for indexing, pass them as data to software, or use them for any other lawful purpose, without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. The only constraint on reproduction and distribution, and the only role for copyright in this domain, should be to give authors control over the integrity of their work and the right to be properly acknowledged and cited…"(Bailey, Charles W. Jr., 2005). Succinctly put, OA means free access to digital or online scholarly materials.

The difference between Budapest, Bethesda and Berlin definitions is that while Budapest states that all scholarly literature should be available for free, the Bethesda and Berlin definitions specify that the author or copyright holder must grant free access to all users.

Two strategies have been recommended to implement the open access model:

1. *Self-archiving or digital archiving*
   This strategy requires that universities maintain an electronic archive in which their faculty would be permitted to store published research papers so that anyone with internet access can retrieve them without paying a fee to the journal publisher. This is also called "green publishing." Self-archiving does not affect peer-review; articles in an institutional archive are peer-reviewed and published in journals in the normal way. An institution's open-access archive supplements but does not replace journals.

2. *Open-access Journals*
   Another way in which authors can provide Open Access to their research is to publish in an Open Access Journal. OA journals make articles available for free by charging authors for publication services rather than charging users subscription fees to access the published research. Often authors can incorporate the cost of Open Access publication fees into the budget that they create when they receive a research grant, which means that they do not incur substantial out-of-pocket costs. The number of Open Access journals in publication is growing steadily, and at least one OA journal is available in every discipline.[2]

Copyright and Open Access

Copyright is a property right granted by law to authors or copyright owners over their works which prohibits unauthorized reproduction or use of their works. The OA movement strives to enable special licensing which would allow free electronic access to all scientific research. The justification for this relaxing of copyright restrictions is that the free exchange of ideas and research is ultimately essential to scientific and cultural progress. Community standards rather than copyright will provide the mechanism for ensuring responsible use of published work.

Open Access Repositories

Numerous OA archives and OA institutional repositories have been established. Some of the largest and most successful initiatives include:

- Directory of Open Access Journals
  http://www.doaj.org/doaj?func=loadTempl&templ=about

- Open Archives Initiative
  http://www.openarchives.org/OAI/OAI-organization.php

- HighWire Press
  http://highwire.stanford.edu/

A Guide to Institutional Repository Software
http://www.soros.org/openaccess/pdf/OSI_Guide_to_IR_Software_v3.pdf
Universities and research centers throughout the world are actively planning the implementation of institutional repositories. This guide has been produced by the Open Society Institute to help organizations with one facet of their repository planning: selecting a software system that best satisfies an institution's needs.

CreativeCommons.org
http://creativecommons.org/
Founded in 2001, Creative Commons is a non-profit organization that offers free tools to let authors, scientists, artists and educators mark their creative work with the freedoms they want it to carry. Its goal is to "build a layer of reasonable, flexible copyright in the face of increasingly restrictive default rules." Users can submit their creative work to CC's Web application for free access or access with certain conditions to the public.

DSpace
http://www.dspace.org/
DSpace is a digital library system that captures, stores, indexes, preserves, and

redistributes an organization's research data. It is freely available open source software.

EPrints Handbook
http://www.eprints.org/
This handbook is a guide to the E-Prints repository software package

Guide to Open Access Publishing and Scholarly Societies
http://www.soros.org/openaccess/html/open_access_publishing_and_scholarly_socie ties.htm
This is a guide meant to help scholarly societies and small publishers assess the options available to them for the future of their journal publishing programs.

LOCKSS (Lots of Copies Keep Stuff Safe)
http://www.lockss.org/lockss/About_LOCKSS
LOCKSS is an open source software that provides librarians with an easy and inexpensive way to collect, store, preserve, and provide access to their own, local copy of authorized content they purchase.

Meeting of the Academies of Sciences: Open Access as a Means to Promote Academic Publishing
http://www.soros.org/openaccess/resources.shtml
This meeting agenda has links to presentations related to promoting open access in academic publishing.

OA Librarians
http://oalibrarian.blogspot.com/
This is a blog written for librarians and by librarians which has excellent information on OA resources and repositories as well as links to other OA blogs.

Open Access Journal Business Guides
http://www.soros.org/openaccess/oajguides/
Model business plan, and guides for launching and converting to open access.

Open Access to knowledge in the Sciences and Humanities
http://oa.mpg.de/openaccess-berlin/berlindeclaration.html
A service provided by BioMed Central to help build, launch, maintain, and populate repositories within a university.

SPARC: Scholarly Publishing and Academic Resources Coalition
http://www.arl.org/sparc/index.html
This alliance of universities, research libraries, and organizations has been a catalyst in reducing dysfunctions in the scholarly communications systems and helping in better dissemination of information. They have been endorsed by major leading academic organizations like CARL & Association of Universities and Colleges of Canada (AUCC).

Resources, Repositories and Archives

BMC BioMed Central
http://www.biomedcentral.com/
BioMed Central is an independent publishing house committed to providing immediate open access to peer-reviewed biomedical research

Free Medical Journals
http://www.freemedicaljournals.com/
The Free Medical Journals Site is dedicated to the promotion of free access to medical journals over the Internet.

HighWire Press
http://highwire.stanford.edu/
A division of the Stanford University Libraries, HighWire Press hosts the largest repository of high impact, peer-reviewed content, with 1067 journals and 4,500,011 full text articles from over 130 scholarly publishers. HighWire-hosted publishers have collectively made 1,805,034 articles free.

PLoS: Public Library of Science
http://www.plos.org/
PLoS is a nonprofit organization of scientists and physicians who are committed to making the world's scientific and medical literature freely available to the public. PLoS also publishes peer-reviewed, open access scientific and medical journals that include original research as well as feature articles.

Public Knowledge Project
http://pkp.sfu.ca/
PKP is a federally funded research project which has developed free open source software which manages, publishes and indexes journals and conference proceedings. University of British Columbia and Simon Fraser University are partners in this project.

Pubmed Central
http://www.pubmedcentral.nih.gov/
Pubmed Central is a free digital archive of biomedical and life sciences journal literature at National Institute of Health in the US. It has a list of journals whose content is available in the form of open access publications. It has many journals listed from Biomed Central, an independent publishing house with more than 160 peer-reviewed open access journals.

Selected Bibliography:

Beth Schachter. *Of mice and medicine*. Available at http://www.nasw.org/users/bschachter/OfMiceAndMedicine.pdf?id=418&backPID=418&swords=schachter&tt_news=407. Last accessed on February 28, 2007.

Björk, Bo-Christer. *Open Access to Scientific Publications: An Analysis of the Barriers to Change*. Available at http://informationr.net/ir/9-2/paper170.html. Last accessed on February 28, 2007.

Clarke, Michael T. *Open Sesame? Increasing Access to Medical Literature*. Available at http://pediatrics.aappublications.org/cgi/content/full/114/1/265. Last accessed on February 28, 2007.

Guterman, Lila. *The Promise and Peril of 'Open Access*. Available at http://chronicle.com/free/v50/i21/21a01001.htm. Last accessed on February 28, 2007.

Guterman, Lila. *Scientific Societies' Publishing Arms Unite Against Open-Access Movement.* Available at http://chronicle.com/errors.dir/noauthorization.php3?page=/prm/weekly/v50/i29/29a02001.htm. Last accessed on February 28, 2007.

Hoorn, Esther and Maurits van der Graaf. *Copyright Issues in Open Access Research Journals*. Available at http://www.dlib.org/dlib/february06/vandergraaf/02vandergraaf.html. Last accessed on February 28, 2007.

Quint, Barbara. *Future of the NIH Open Access Policy*. Available at http://www.infotoday.com/it/oct04/quint.shtml. Last accessed on February 28, 2007.

Books

Bailey, Charles W., Jr. 2005. *Open Access Bibliography*. Washington, DC: Association of Research Libraries

Bailey, Charles W. Jr. 2006. *What Is Open Access? Preprint of chapter in Open Access: Key Strategic, Technical, and Economic Aspects.* Chandos Publishing (Oxford) Ltd.

McVeigh, Marie E. 2004. *Open Access Journals in the ISI Citation Databases: Analysis of Impact Factors and Citation Patterns*. Thomson Scientific.

Works Cited and Consulted

Eysenbach, Gunther. *Citation advantage of open access articles.* PLoS Biology. 2006; 4(5): p. e157. Available at: http://biology.plosjournals.org/perlserv/?request=get-document&doi=10.1371%2Fjournal.pbio.0040157.

Harnad, Steven. *Opening access by overcoming Zeno's paralysis.* Available at:

http://eprints.ecs.soton.ac.uk/12094/.

[1]Hitt Emma. *Pros and cons of open-access publishing debated.* Medscape. Nov. 7, 2003. Available at: http://www.medscape.com/viewarticle/464149.

[2] SHERPA. *Authors and open access.* Last updated: 2006. Available at: http://www.sherpa.ac.uk/guidance/authors.html#whatoa.

Suber, Peter. *Open Access Overview: Focusing on open access to peer-reviewed research articles and their preprints.* Last Updated: June 19, 2007. Available at: http://www.earlham.edu/~peters/fos/overview.htm.

Wilinsky, John. *The Access Principle: The Case for Open Access and Research Scholarship.* Available at: http://mitpress.mit.edu/catalog/item/default.asp?tid=10611&ttype=2.

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