

***Society for Scholarly Publishing
Issue Status Report
June 2004***

Open Access: A Matter *For* Definition

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Introduction

The Society for Scholarly Publishing (SSP) is an international nonprofit professional association founded in 1978. The mission of SSP is to advance scholarly publishing and communication, and the professional development of its members through education, collaboration, and networking among individuals in this field. SSP provides the opportunity for interaction among members in all aspects of scholarly publishing, including journal and book publishers, librarians, manufacturers, and web editors.

This is the first *Issue Status Report* published by the Society. It came about in response to member requests that SSP declare a position regarding open access publishing. From its beginnings, SSP was predicated on the concept that the Society would serve as a neutral forum for all opinions generated by the numerous perspectives arising from the diversity of its membership—a membership spanning the communication process from author to reader. This *Issue Status Report* establishes a mechanism for the Society to maintain its neutral role yet provide a balanced information source to its members and the larger scholarly communications community.

It is important that the reader realize that the extensive number and length of quotations found in this report arose out of a desire to ensure accuracy (and any question of bias) in the presentation of opinions expressed by the variety of individuals and organizations. Critical concepts are best conveyed in their original state without any potential for even the slightest perceived permutation through synthesis or summation. To help the transition from original report text to a quotation and back again, throughout the report quoted passages are italicized.

The Society's intent is not to influence, but to inform by way of a relatively compact text and an exhaustive reading list, which also contains references cited in the text. The report highlights the critical events that have taken place as the issue has developed over the last few years, places those events in historical context, and provides extensive quotes of all published perspectives relevant to the open-access concept.

The reading list points to a fairly comprehensive body of supportive and supplemental materials. Serious readers are urged to avail themselves of the citation linking to the full text (most offered via open access). The intent for providing this extensive bibliography is to assist the reader in becoming more conversant with the depth and breadth of perspectives in the community that can only be skimmed here. Follow-up reading is encouraged in order to gain the most from this information.

Issues and Players

The issues surrounding open access publishing are almost as numerous as the journals it concerns. Recent mass media attention on the scholarly publishing process has brought about both internal and external examination of key aspects in the process, namely:

- the extent and quality of peer review
- the technologies and costs associated with the capture and display of information
- the technologies and costs associated with the various distribution channels (formats)
- the pricing policies and subsequent business models exercised by the various types of scholarly publishers

- the ever-increasing expectations of the principal consumer (i.e., authors and researchers/scholars) with regard to the method of information delivery along with its cost, availability, and extent of access (bibliographic versus full-text)
- the impact of new technologies and current publishing economics on other sectors of the communication process, namely, authors, libraries, and allied industries such as aggregators and subscription agents
- the technological challenges to ensuring the accuracy and accessibility of archives both present and future along with the potential impact of author archives and repository archives
- the overall sustainability of the scholarly communication process.

On both the individual and collective bases, these issues are too extensive in their composition and reach to be examined and discussed in this report, but they are identified here for the purpose of reminding the reader at the outset that open access publishing does not exist in a vacuum. In fact, the complications arising from each issue that impact on the very process of scholarly publishing create a context not to be ignored as the reader postulates the changes that may occur in publishing based on the degree of acceptance that the various open access models will experience.

Through this *Issue Status Report*, SSP endeavors to provide an overview of the publicly held positions from as many players in the community as was feasible and appropriate to give the reader a balanced body of information. The sectors of the communication process most vocal about the issue of open access publishing include authors (mainly coalitions of researchers in scientific, technical, and medical membership organizations), commercial and nonprofit publishers (specifically professional societies/associations and university presses), libraries, and third-party vendors (aggregators, etc.).

Such a Time to be Alive

“*What an extraordinary time it is in scientific and medical publishing.*” Neil Turner (2004) starts his review of *PLoS Biology* (*BMJ*, January 2004) with this extremely positive sentence that harkens back to the old Chinese adage (or curse) about interesting times.

What has brought us to this extraordinary point in time? Most articles written about open access to the full text of primary literature hold the same premise as a mystery novel — follow the money. The escalating cost of scientific journals is cited as the primary suspect (some even deliver a verdict of guilty to commercial publishers as the prime culprits). These articles, which have become nearly a separate body of literature in and of themselves as they posit a multitude of perspectives, create a maelstrom of information.

To make matters just that much more confusing, the lines that some attempt to draw between publishers and everyone else (academic administrators, librarians, government funding agencies, and researchers) are not that clear either. Richard Horton, editor of *The Lancet*, reported that he is now hearing concerns voiced by scientists. “*They [scientists] cite new biases with open-access models, which could further distort an already uneven playing field for authors. If new journals are to be funded by authors, they ask, will this approach not favour those authors who can pay....? The Public Library of Science [PLoS] denies that it will introduce new barriers ... That may be the intention, but if the avoidance of a new barrier to publication depends, for example, on a means test, authors in resource-poor settings might be*

dissuaded from submitting their work to author-pays journals because of the fear of stigma or a reluctance to be the beneficiaries of western charity.” (Horton, 2003).

Karen Hunter, Senior Vice President, Elsevier, wrote in the March 23, 2004, edition of *Nature* (“Open Access: yes, no, maybe) about a speech given last month by Paul Saffo, research director of the Institute of the Future. His message was that “*we were living in a period of ‘unprecedented uncertainty.’ I [Hunter] cannot imagine a more apt description*” (Hunter, 2004a).

These statements of concern by two seasoned publishers reflect just how muddled the opinions and perspectives can appear with regard to messages sent and received between all the players in the scholarly communication process. For the sake of focus and brevity, this report will concentrate now on the open access issue without major forays into many other important related areas such as copyright, global information dissemination, relevant library and publishing standards, institutional repositories and the open archives initiative. Each of those topics deserves singular treatment, but at least a nod is given to most through the reading list.

Whence Open Access?

The concept of open-access (OA) publishing does not have a long history compared to the 350-year run of scholarly journals. But OA did appear a few decades prior to the most recent (2001) and highly publicized example of the Public Library of Science (PLoS), which has spawned so many column inches of published opinion and as many lines of text on various listservs.

The first examples of open access to published scholarly information are found in the field of education. Peter Suber, Senior Researcher, The Scholarly Publishing and Academic Resources Coalition (SPARC), cites 1966 as the year when the first “open access” (the term was not in use at that time) source of bibliographic information came into existence. This was the ERIC (Educational Resources Information Center) database, launched by the U.S. Department of Education and the National Library of Education (coverage began with books and journal articles have since been added).

The first notation of an early free online peer-reviewed journal comes in 1987 with *New Horizons in Adult Education* published by the Syracuse University Kellogg Project. Two years later Stevan Harnad launched the online journal, *Psycology*, sponsored but not published by the American Psychological Association, that became peer-reviewed in 1990. Also in 1989, Charles W. Bailey, Jr. started free online publication of *The Public-Access Computer Systems Review*, adding a peer-reviewed section in 1992.

Free online peer-reviewed journals continued to appear in each subsequent year. As of March 1, 2004, the Lund University Libraries’ **Directory of Open Access Journals** (DOAJ) lists 766 titles covering topics from agriculture and food sciences to technology and engineering.

Suber’s use of both the terms “free” and “open access” points to one of the pivotal issues in the current debate among librarians, publishers, scientists, and funding agencies—that of definition. There aren’t hundreds of definitions for the term “open access,” but in the last 24-plus months a number have been offered. Certainly enough to make one take pause and think to ask what someone means by “open access” rather than presuming your definition is the same as that of your colleague.

Open Access Definitions

The following definitions describe open access publication from a variety of perspectives (quoted directly from the relevant websites, published statements from meetings, press releases, or publications).

Association of College and Research Libraries (ACRL)

[ACRL Scholarly Communications Committee, 2003. "Principles and Strategies for the Reform of Scholarly Communication." Approved by ACRL Board of Directors on June 24, 2003 at the American Libraries Association (ALA) Annual Conference.]

"ACRL supports the following principles for reform in the system of scholarly communication:

- ***the broadest possible access to published research and other scholarly writings***
- ***increased control by scholars and the academy over the system of scholarly publishing***
- *fair and reasonable prices for scholarly information*
- *competitive markets for scholarly information*
- *a diversified publishing industry*
- ***open access to scholarship***
- ***innovations in publishing that reduce distribution costs, speed delivery, and extend access to scholarly research***
- *quality assurance in publishing through peer review*
- *fair use of copyrighted information for educational and research purposes*
- *extension of public domain information*
- *preservation of scholarly information for long-term future use*
- *the right to privacy in the use of scholarly information."*

(Boldface inserted to highlight principles most relevant to open access.)

Association of Research Libraries (ARL)

(ARL, 2004: "Framing the Issue Open Access." Available at

http://www.arl.org/scomm/open_access/framing.html accessed on February 28, 2004; last modifications then cited February 26, 2004.)

- ***"Open access is a cost-effective way to disseminate and use information. It is an alternative to the traditional subscription-based publishing model made possible by new digital technologies and networked communications. As used by ARL, open access refers to works that are created with no expectation of direct monetary return and made available at no cost to the reader on the public Internet for purposes of education and research . . . Open access does not apply to materials for which the authors expect to generate revenue.***
- ***"Open access operates within the current legal framework of copyright law. Authors own the original copyright in their works. In the process of publishing, authors can transfer to publishers the right for publishers to post the work freely on the Web, or authors can retain the right to post their own work on institutional or disciplinary servers. Authors, however, retain control over the integrity of their work and have the right to be properly acknowledged and cited.***

- *“Open access is intended to be free for readers, not free for producers. The costs of producing digital open-access literature are believed much lower than the costs of producing print literature, but financial and human resources are required. Author or institutional fees for dissemination have been proposed as possible alternatives to the traditional library subscription model for funding the costs of open access.*
- *“Open access focuses on academic research. Open access is concerned with scientific and research texts that scholars give to the community without expectation of direct monetary return, including peer-reviewed journal articles, preprints, preliminary findings, and data sets.*
- *“Open access and peer review. Open access does not mean that peer review is bypassed. Peer review is medium-independent, as necessary for online journals as for print journals, and no more difficult.”*

Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities

(Berlin Declaration, 2004: Available at <http://www.zim.mpg.de/openaccess-berlin/berlindeclaration.html>. Accessed on February 28, 2004; last modifications then cited February 23, 2004.)

The Berlin Declaration was signed on October 22, 2003, by seven major German research societies along with another 12 national and international organizations to put forth their collective position that the Internet was moving toward becoming the “functional medium for disseminating knowledge.” Furthermore, they, as organizations, pledge themselves to the concept of open access to scholarly literature through electronic media and to the development of sound financial and legal models to sustain the concept. In their statement the following definition was provided.

“We define open access as a comprehensive source of human knowledge and cultural heritage that has been approved by the scientific community.

“Open access contributions include original scientific research results, raw data and metadata, source materials, digital representations of pictorial and graphical materials and scholarly multimedia material.

“Open access contributions must satisfy two conditions:

1. *The author(s) and right holder(s) of each contribution grant(s) to all users a free, irrevocable, worldwide right of access to, and a license to copy, use, distribute, transmit and display the work publicly and to make and distribute derivative works, in any digital medium for any responsible purpose, subject to proper attribution of authorship (community standards, will continue to provide the mechanism for enforcement of proper attribution and responsible use of the published work, as they do now), as well as the right to make small numbers of printed copies for their personal use.*
2. *A complete version of the work and all supplemental materials, including a copy of the permission as stated above, in an appropriate standard electronic format is deposited (and thus published) in at least one online repository using suitable technical standards (such as the Open Archive definitions) that is supported and maintained by an academic institution, scholarly society, government agency, or other well established organization*

that seeks to enable open access, unrestricted distribution, inter operability, and long-term archiving."

Bethesda Principles

(Available at <http://fos.openlib.org/bethesda.htm>.)

The Bethesda Principles were endorsed at the Howard Hughes Medical Institute Meeting on Open Access Publishing, April 11, 2003. The principles were the result of three groups representing the major sectors within the scholarly communication process: Institutions and Funding Agencies working group; Library and Publishers working group; and Scientists and Scientific Societies working group. Their efforts resulted in the following definition for open access.

"An Open Access Publication¹ is one that meets the following two conditions:

"1. The author(s) and copyright holder(s) grant(s) to all users a free, irrevocable, worldwide, perpetual right of access to, and a license to copy, use, distribute, transmit and display the work publicly and to make and distribute derivative works, in any digital medium for any responsible purpose, subject to proper attribution of authorship², as well as the right to make small numbers of printed copies for their personal use.

"2. A complete version of the work and all supplemental materials, including a copy of the permission as stated above, in a suitable standard electronic format is deposited immediately upon initial publication in at least one online repository that is supported by an academic institution, scholarly society, government agency, or other well-established organization that seeks to enable open access, unrestricted distribution, interoperability, and long-term archiving (for the biomedical sciences, PubMed Central is such a repository).

"Notes:

"¹ Open access is a property of individual works, not necessarily journals or publishers.

"² Community standards, rather than copyright law, will continue to provide the mechanism for enforcement of proper attribution and responsible use of the published work, as they do now."(Bethesda Principles, 2003)

BioMed Central Open Access Charter

(Available at <http://www.biomedcentral.com/info/about/charter>)

BioMed Central is a commercial publisher of journals across all biomedical fields that makes its peer-reviewed original research articles immediately and freely available through PubMed Central, the NIH-sponsored national repository. The definition for open access cited in the BioMed Central charter is as follows.

"Every peer-reviewed research article appearing in any journal published by BioMed Central is 'open access', meaning that:

"1. The article is universally and freely accessible via the Internet, in an easily readable format and deposited immediately upon publication, without embargo, in an agreed format --

current preference is XML with a declared DTD -- in at least one widely and internationally recognized open access repository (such as PubMed Central).

“2. The author(s) or copyright owner(s) irrevocably grant(s) to any third party, in advance and in perpetuity, the right to use, reproduce or disseminate the research article in its entirety or in part, in any format or medium, provided that no substantive errors are introduced in the process, proper attribution of authorship and correct citation details are given, and that the bibliographic details are not changed. If the article is reproduced or disseminated in part, this must be clearly and unequivocally indicated.

“BioMed Central is committed permanently to maintaining this open access publishing policy, retrospectively and prospectively, in all eventualities, including any future changes in ownership.”

Budapest Open Access Initiative (BOAI)

“By 'open access' to this literature 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.*

** “BOAI only seeks open access for the scientific and scholarly research texts that authors give to publishers and readers without asking for any kind of royalty or payment. As the BOAI public statement puts it, ‘[p]rimarily, this category encompasses . . . peer-reviewed journal articles, but it also includes any unreviewed preprints that [scholars] might wish to put online for comment or to alert colleagues to important research findings.’ It does not include books from which their authors would prefer to generate revenue. It does not include any non-scholarly writings, such as novels or news”.*

“While the BOAI does not specifically cover donated scholarship other than peer-reviewed journal articles and preprints, it could be extended quite naturally to all the writings for which authors do not expect payment. These include scholarly monographs on specialized topics, conference proceedings, theses and dissertations, government reports, and statutes and judicial opinions.” (BOAI, 2002)

CreateChange.org

(Source: www.createchange.org)

“ . . . open-access journals, . . . employ funding models that do not charge readers or their institutions for access

The CreateChange.org is sponsored by the Association of Research Libraries, Association of College and Research Libraries, and SPARC with support from the Gladys Kriebel Delmas Foundation.

Directory of Open Access Journals (DOAJ)

“‘Open Access’ Journal: We define open access journals as journals that use a funding model that does not charge readers or their institutions for access. From the BOAI definition [see BOAI above] of ‘open access’ we take the right of ‘users to read, download, copy, distribute, print, search, or link to the full texts of these articles’ as mandatory for a journal to be included in the directory.” (DOAJ, 2004)

International Council for Scientific and Technical Information (ICSTI), in partnership with INIST, INSERM and the Ministère de la Recherche and in association with CODATA and ICSU — “Meeting on Open Access, state of the art and future developments” Paris, January 23/24 2003.

“The term ‘open access’ as used in the context of this seminar encompasses all the developments affecting access to STM (Scientific, Technical & Medical) information. It includes technical, organisational, economic, legal and policy aspects. The overall concept therefore involves authors, publishers (primary and secondary), funding bodies, information service providers, technical standards developers, public authorities, policy makers and international agencies concerned with development.” (ICSTI, 2003)

International Network for the Availability of Scientific Publications (INASP)

INASP was established in 1992 by ICSU (International Council for Science) as a program of the Committee for the Dissemination of Scientific Information (CDSI). Its mission is to improve information transfer within and between countries, especially those with “less developed systems of publication and dissemination.” Headquartered in the UK, INASP has a special focus on North-South networking to improve access to reliable and relevant information.

“Free [read = open] access to all people is here defined as freely available to all -- not only to subscribers or to readers from specific geographical or economic regions (e.g. through one of the [developing world] initiatives).” (Source: INASP website)

Organisation for Economic Co-operation and Development (OECD) Committee for Scientific and Technological Policy

Formed under the aegis of the Marshall Plan after WWII, the OECD comprises 30 member countries (and works closely with another 70 non-member nations) and is best known for its publications and its statistics, its work covers economic and social issues from macroeconomics, to trade, education, development and science and innovation.

“Openness: balancing the interests of open access to data to increase the quality and efficiency of research and innovation with the need for restriction of access in some instances to protect social, scientific and economic interests.” (OECD, 2004.)

Peter Suber, Project Director for Open Access, Public Knowledge; Senior Research, SPARC; Editor, *Open Access now*

Published Definition #1:

“Open access to scientific journal articles means online access without charge to readers or libraries. Committing to open access means dispensing with the financial, technical, and legal barriers that are designed to limit access to scientific research articles to paying customers. It means that, for the sake of accelerating research and sharing knowledge, publishers will recoup their costs from other sources.”(Suber, 2002)

Published Definition #2:

“‘Open access’ is free online access. Open-access literature is free of charge to everyone with an internet [sic] connection and free of most copyright and licensing restrictions.” [“The Promise of ‘Open Access’ Publishing. The Chronicle of Higher Education Colloquy Live. Thursday, January 29, 2004.]

Public Library of Science (PLoS)

“The PLoS open-access license allows anyone, anywhere, with a connection to the Internet to read, download, print, copy, and redistribute any published article or to use its contents in derivative works, such as databases, textbooks, or other teaching materials. Under open access, all material is also deposited in an archival public repository (such as PubMed Central), which enhances the utility of all deposited papers by allowing sophisticated searching, manipulation, and mining of the literature, using new and emerging tools.” (Source: PLoS website.)

Washington, D.C., Principles for Free Access to Science

“3. As not-for-profit publishers, we have introduced and will continue to support the following forms of free access:

- Selected important articles of interest are free online from the time of publication;*
- The full text of our journals is freely available to everyone worldwide either immediately or within months of publication, depending on each publisher’s business and publishing requirements;*
- The content of our journals is available free to scientists working in many low-income nations;*
- Articles are made available free online through reference linking between these journals;*
- Our content is available for indexing by major search engines so that readers worldwide can easily locate information.”* (D.C. Principles, 2004.)

The D.C. Principles are the collective comment of 48 not-for-profit publishers (primarily life science and biomedical societies with memberships totaling over 600,000 scientists and clinicians).

World Summit on the Information Society (WSIS)

WSIS, a summit of the United Nations, is organized by the International Telecommunication Union, Geneva, which is an international organization within the UN System to bring about cooperation and coordination of global telecoms networks and services between governments and the private sector. The written evidence submitted to the UK Parliament's Science and Technology Committee was prepared by the Civil Society Working Group on Scientific Information. [See <http://www.itu.int/wsisis> for more information.]

“Journals or archives fully comply with our definition of Open Access only if their web sites can be conveniently and freely copied and mirrored.” (WSIS, 2004).

John Willinsky, a University of British Columbia, Vancouver, professor, was quoted as saying that publishers “*spend way too much time arguing about definitions. I now say that I'm for anything that expands access.*” [Malakoff, D. “Opening the Books on Open Access.” *Science*. Vol. 302, 24 October 2003.]

Anthony Watkinson, a UK-based publishing consultant, asserts in his most recent *Against the Grain* column (February 2004) that “*many readers of the journal can with reason feel a growing boredom about the exponentially increasing literature on Open Access. Such a response is rational because, in practice, OA impinges very little if at all on the working life of not only the scholars participating at the beginning and end of scholarly communication but also we intermediaries.*” (Watkinson, 2004) Whether or not Watkinson is right about a general ennui among readers, almost daily, new articles, commentaries, and op-ed pieces join the body of literature focused on the topic of open access. The publication of such news parallels the morbid fascination readers have for true-life crime stories. Even the British Parliament is attempting to solve the mystery of whether a single approach to scientific publishing (such as Open Access) is most appropriate. That effort has served largely to create yet another formidable pile of documents. [See the Reading List for over 20 Web-accessible responses to the House of Commons' Science and Technology Committee Inquiry on Scientific Publications.]

The continued voicing of opinions around the world portends no quick end to the OA “debate.” If one wishes to engage in the debate, or just attempt to keep up with all of the definitions and declarations, the following overview of the major pros and cons might prove helpful.

Some Pros & Cons

“I think being in favor of free access and open access of scientific information is rather like motherhood and apple pie.”

—Dr. Ira Mellman, chairman of the Department of Cell Biology at Yale University School of Medicine and editor-in-chief of *The Journal of Cell Biology*, in an interview on the Charlie Rose Show, August 11, 2003.

The open-access publishing model, as Dr. Mellman continued in the interview, “*has nothing in principle wrong with it except for the fact that the model is as yet untested. And there is much that exists in the current publishing environment that actually speaks very positively for it.*” He subsequently said he

would have elaborated but the other guest, Dr. Harold Varmus, interjected his own opinion just as time ran out.

Dr. Mellman is not alone in his viewpoint, but neither is his vantage universally shared. Individuals and organizations around the world have declared themselves either “for” or “against” open access publishing (or been rightly or wrongly labeled one or the other). This need was prompted by the Public Library of Science’s public campaign begun in 2000 with an open letter to the scientific community that garnered 30,000 signatures but had little to no immediate effect on the established publishing community. The tradition-bound and long-standing establishments and processes of scholarly publishing do not change quickly.

Hence the launching of the PLoS open-access journals occurred in 2003 with author payments of \$1,500 per article to fund open access—along with the Moore Foundation grant of \$9 million dollars that financed not only start-up operations, but a mass media campaign as well. A press release coinciding with the announcement of the Sabo Bill (defined in following paragraph) along with radio interviews, talk show spots, TV and space advertisements were all used by PLoS in a PR campaign never before seen in scientific and scholarly publishing. One example of the reach and tone of the PLoS initiative was Dr. Michael Eisen’s editorial on NPR’s Marketplace (October 13, 2003) where he explained the rationale behind the new open-access journal launches. *“We’re upending the business model. Let the publishers become what they should be naturally: midwives to our research publications. That way a thriving scientific publishing industry is maintained, but it has a free system of access that benefits all”*

Sabo Bill

On June 26, 2003, representative Martin Olav Sabo, D-Minn., introduced the Public Access to Science Act (PASA) of 2003. Sabo’s bill is predicated on the assumption that U.S. citizens should not have to pay for scientific literature twice: first through tax dollars funding the research and then again through subscription dollars funding the publication of that research through scientific journals and other publications. The Public Library of Science (PloS), a San Francisco-based publishing organization espousing the open access principle, voiced support of the Sabo Bill. That support plus a media campaign fueled by substantial grant monies sparked a global debate on the issue.

But the spark that really ignited the SSP community along with many others in publishing and even some in academe, libraries, and new technologies, was Rich Weiss’ August 5, 2003 article in *The Washington Post* “A Fight for Free Access to Medical Research Online Plan Challenges Publishers’ Dominance” (Weiss, 2003). The ensuing debate established the SSP-Listserv as a dynamic communications forum for all points of view. Participants voicing all manner of opinions on the proposed open access model weighed in with great vigor — sometimes the rhetoric of the debate reached a few boiling points, but for the most part the information and opinions exchanged were useful and constructive. (Visit www.sspnet.org to become a member and to sign up for the SSP listserv, if you haven’t already.)

What that debate displayed (as well as those on many other publishing, library, and researcher listservs) are the strong stands being taken within the various communities. The endorsements quoted here from a few influential organizations are exemplary of those in strong support of the open-access model. Counterpoints follow.

Open Access Endorsements [Those in Favor]

European Research Organisations as signatories of the Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities

“Our organizations are interested in the further promotion of the new open access paradigm to gain the most benefit for science and society. Therefore, we intend to make progress by:

- encouraging our researchers/grant recipients to publish their work according to the principles of the open access paradigm*
- encouraging the holders of cultural heritage to support open access by providing their resources on the Internet*
- developing means and ways to evaluate open access contributions and online journals in order to maintain the standards of quality assurance and good scientific practice*
- advocating that open access publications be recognized in promotion and tenure evaluation*
- advocating the intrinsic merit of contributions to an open access infrastructure by software tool development, content provision, metadata creation, or the publication of individual articles” (Berlin Declaration, 2004).*

Organizations Laud Innovative Open-Access Publishing Venture [Press release: November 2003]

“A coalition of major library and public interest organizations praised the October 13 premier of the first ‘open access’ journal published by the San Francisco-based Public Library of Science (PLoS), a non-profit organization of scientists and physicians.

“Organizations voicing their support for PLoS include the American Association of Law Libraries, Association of Academic Health Sciences Libraries, Association of College and Research Libraries, Association of Research Libraries, Medical Library Association, Open Society Institute, Public Knowledge, and SPARC (Scholarly Publishing and Academic Resources Coalition). Several of these organizations have been actively promoting alternatives to subscription-based journal publishing.”

UN World Summit on the Information Society (WSIS) Declaration of Principles

“28. We strive to promote universal access with equal opportunities for all to scientific knowledge and the creation and dissemination of scientific and technical information, including open access initiatives for scientific publishing.” (UKSG, 2004)

Wellcome Trust

“The mission of the Wellcome Trust is to ‘foster and promote research with the aim of improving human and animal health.’ The main output of this research is new ideas and knowledge, which the Trust expects its researchers to publish in quality, peer-reviewed journals.

“The Trust has a fundamental interest in ensuring that neither the terms struck with researchers, nor the marketing and distribution strategies used by publishers (whether commercial, not-for-profit or academic) adversely affect the availability and accessibility of this material.

“With recent advances in Internet publishing, the Trust is aware that there are a number of new models for the publication of research results and will encourage initiatives that broaden the range of opportunities for quality research to be widely disseminated and freely accessed.

“The Wellcome Trust therefore supports open and unrestricted access to the published output of research, including the open access model [using the Bethesda Principles definition], as a fundamental part of its charitable mission and a public benefit to be encouraged wherever possible.

“Specifically, the Trust:

- welcomes the establishment of free-access, high-quality scientific journals available via the Internet;*
- will encourage and support the formation of such journals and/or free-access repositories for research papers;*
- will meet the cost of publication charges including those for online-only journals for Trust-funded research by permitting Trust researchers to use contingency funds for this purpose;*
- encourages researchers to maximize the opportunities to*
- make their results available for free and, where possible, retain their copyright, as recommended by the Scholarly Publishing and Academic Resources Coalition (SPARC), and as practiced by BioMed Central, the Public Library of Science, and similar organizations;*
- affirms the principle that it is the intrinsic merit of the work, and not the title of the journal in which a researcher's work is published, that should be considered in funding decisions and awarding grants” (Wellcome, 2003).*

Open Access Detractions [Those Opposed]

As is to be expected, for every proponent of open-access publishing there is an equally fervent opponent.

Elsevier—Karen Hunter, Senior Vice President, Strategy

After her brief review of all the effort publishers have expended to distribute journals online, Hunter reports that *“the message we and other publishers are receiving is this: it is not enough. Now we are to change and make everything available for free.”*

“They [PLoS, BioMed Central, etc.] are subsidizing the process with grants or private capital. It is not possible for a publisher that is accountable to a society membership or shareholders to act in this financially untenable way. Therefore, if we are to experiment, we would have to charge the real cost of publication, effectively pricing ourselves out of the current Open Access market. And we would be endorsing a model that at the moment is unsustainable” (Hunter, 2004b).

Elsevier Science—Pieter Bolman, Director of STM Relations

“Elsevier’s commitments, vision, and assessment

- *Commitment to make a profit.*
- *Commitment to provide the best service possible.*
- *The scientific literature is an interconnected jigsaw and should be openly accessible to all scholars. All journals and books should be interoperable, browseable and searchable for the user. It should not make a difference who publishes the material(s) he is interested in. As a result, Elsevier retrodigitizes all its previous material and actively supports efforts such as CrossRef.*
- *The current state is one of transition between electronic and paper, with still glaring paper technology related inefficiencies: a good licensing scheme minimizes the necessity for wasteful practices in [the] library.*
- *Question is: is OA approach (as currently defined) better than ‘enlightened licensing’ practiced by traditional publishers?”*

[Presented at “Open Access to Scientific & Technical Information: State of the Art & Future Trends.” Paris, January 23-24, 2003.]

Rockefeller University Press (RUP)—Michael J. Held, Executive Director

“Representing the Rockefeller University Press (RUP), a nonprofit department of the Rockefeller University and publisher of The Journal of Cell Biology, I take issue with a number of the points made by the Sabo Act. It appears to me that this is a thinly veiled attempt by Harold Varmus and the other founders of the Public Library of Science (PLoS) to eventually force all publishers into their open access publishing model. As this publishing model is unproven and may well be unsustainable, this is an irresponsible act.

[snip]

“I am certainly not opposed to much of what the PLoS advocates. We at RUP welcome another player in the publishing field, and wish them well in their mission of providing free content by relying on upfront fees and charitable contributions. However, to attempt to legislate the demise of the time-honored subscription-based business model, prior to proving that another model works, does not seem wise. . . Ironically, an open access model may end up threatening the ability of some researchers to publish their research if all costs are lumped into a large upfront payment.

[snip]

“Many of the publishers (like RUP) that are in the middle of the publishing spectrum—the organizations situated between the open access advocates and the commercial publishing conglomerates—have already been instrumental in promoting free back content . . . An important feature of HighWire is its free content. To date 556,915 articles in 335 journals at HighWire are available online for free, and this number grows daily.

[snip]

“If librarians can act together they can insist on solutions that are both financially viable for publishers and morally acceptable for consumers . . . The Internet bubble of the late 1990s showed that the obvious attraction of free content can flounder when faced with economic reality” (Held, 2003).

Martin Richardson, Publishing Director, Oxford University Press

Subject: OUP and Open Access (SSP-L July 7, 2003)

“As far as I am aware all publishers involved in open access journals are relying on subsidy, whether internally or externally funded. The business model whereby authors or their institutions pay for online publication has so far failed to gain sufficient acceptance to produce enough revenues to cover the ongoing costs of publication, let alone to generate the profits that will be necessary for future investment and to reward shareholders, both necessary pre-conditions before open access publishing is likely to be widely adopted as a sustainable alternative to the current system.”

Richard O'Grady, Executive Director, American Institute for Biological Sciences

Subject: PLoS pricing and the assumed ability of research grants to cover publication costs (SSP-L, August 13, 2003)

“As the publisher of a monthly biology journal from a non-profit scientific association, I offer the following counter-argument to PLoS's model of having journals rely on payments of approx. \$1,500/article to cover their costs of operation while publishing in an open-access, zero-subscription-revenue, online environment. (I disagree that \$1,500/article is anywhere near sufficient to cover such costs, but that's for another email).

“Regardless of research funding levels in the biomedical sciences from which the PLoS model has originated, and regardless of the argument that publication in the peer-reviewed literature is the final step of doing research in any area of science and should therefore be paid for by the scientist's funding sources, it is the case that individual grant awards in the U.S. in non-medical areas of biology and in many other areas of the sciences typically include very little, if any, money for publication costs that would be sufficient to support a ‘author-pay’ system. Funding the cost of publication through submission or publication fees is not likely to be possible unless the likes of the National Science Foundation, the U.S. Department of Agriculture, the U.S. Environmental Protection Agency, and similar agencies change their policies re allowable costs in their grants as well as convince Congress to increase their budgets dramatically.

[snip]

“Furthermore, the PLoS approach would disenfranchise and prevent from publishing those scientists who are working on projects that are not externally funded, are funded through sources that preclude paying publication charges, or are funded at a low level, such as:

- *Faculty members doing research with college or foundation grants that do not support publication charges.*
- *Scientists working for government agencies, NGOs, institutes, or industry that do not provide their employees with funds for publication costs.*
- *Faculty members at non-tier 1 universities, or small colleges, doing research with college or foundation grants that do not support publication charges.*

- *Researchers' unanticipated findings and resultant papers that arise during the course of a grant but aren't budgeted for.*
- *Junior faculty members publishing so as to be in position to apply for their first grant.*
- *Postdoctoral fellows publishing so as to be in position to apply for a job or funding.*
- *Graduate students, and even undergraduate students, doing a degree on a show-string and have generated research results worthy of publication.*

“Such research -- funded by the public in many cases and now ready for dissemination -- would be excluded from ever reaching the public under any model that aims to pay its publication costs from author fees. As a consequence, the research would not get published and the journal would not have a pool of authors able to pay the prices -- year in, year out, consistently -- that it needs to keep its operations staffed, housed, and equipped. The journal would either cease to exist and its contents lost and/or scattered, or, more likely, the journal would be sold to a commercial publisher by its society before it collapsed entirely so that the society could at least retain editorial control of the journal's content while giving up ownership and control of the journal's publication operations and pricing.”

“The PLoS model is inconsistent with how most of scientific research is funded and gets published. Covering publication costs through paid subscriptions appears to be the best way not only to allow journals from non-profit publishers to recover their costs of editing, production, and overhead, but also to avoid discriminating against and excluding most of the very scientists whose collective work constitutes the scientific literature.”

Keith Seitter, Deputy Executive Director, American Meteorological Society
Subject: Transition to open access publishing (SSP-L, September 4, 2003)

“We deal with this issue all the time in our journals and the UK is not the only country that places restrictions on government funds being used to cover page charges. As our journals have increased their international authorship the percentage of uncollected page charges has increased as well due to such restrictions. Those authors who can cover page charges, from the US and other countries where this is not prohibited, are partially subsidizing the publication of articles by authors from the UK, New Zealand, and other countries. Given subscription revenue the subsidy is only partial, but under a business model that relied fully on author charges we would have to either refuse to publish the excellent research coming from these UK and other authors or have a rather unfair system in which they were able to publish at no cost while the US (and other international) authors paid enough to make up the difference.”

Peter Banks, Publisher, American Diabetes Association
Subject: PLoS Biology (SSP-L, October 20, 2003)

“It is wonderful that PLoS Biology has made such a splash with the Nicoletis and Carmena paper. What's troubling, however, is that the debut of the journal has been yet another occasion for the general news media to behave in an irresponsible, biased fashion.”

“Exhibit no. one is this story from the Associated Press, carried in USA Today. ‘Free online journals seeks revolution in science publishing.’ By Paul Elias, Associated Press. A new online journal aims to radically alter scientific publishing, breaking the stranglehold that expensive private journals have on the details of most discoveries by making vital research freely available on the Internet.

“Once again, the story is played as a David and Goliath struggle of the courageous, idealistic upstart (PLoS) vs. the big bad giant (Elsevier). Nowhere is there recognition that there are publishers other than Elsevier, namely the association and society publishers who deliver quality journals at reasonable subscription rates while maintaining rigorous peer review.

[snip]

“I am truly happy for PLoS Biology’s success, even though I am doubtful that the model will be easily transferred to other journals. But it’s time for association and society publishers to stop allowing PLoS to drive the terms of the debate in the general media.”

Alastair Dryburgh, Consultant

Subject: Costs of open access publishing - the Wellcome Trust report (SSP-L, May 18, 2004)

“As the author of the report which provided many of the figures for the Wellcome Trust report on Costs and Business Models in Scientific Research Publishing I would like to comment on the report and highlight a number of areas which it did not address.”

“The report suggests that open access publishing can be 30% cheaper than conventional, largely as the result of lower variable costs. This presumably means no print. A traditional publisher could do this just as easily if the market justified it. The elimination of print is only the most obvious of a range of cost issues, which need much more careful consideration.”

“The early proponents of open access were most vociferous in their view that existing publishers made things much more complicated than they needed to be, and that editorial processes could be radically simplified so that open access publishing became viable at a publication fee of \$500 per article. This point has been emphasised less recently as some OA publishers, most notably PLoS, have introduced higher article charges with an emphasis on quality.”

“There is a question here of how much of the cost of article processing represents quality which authors recognise to the extent of being willing to pay for, or things which the publisher holds to be important (such as the maintenance of a house style) which authors may not value so highly, or simply inefficiency in the process. The report's recognition of quality does not go beyond an assumption that higher quality journals have higher rejection rates and hence higher costs per paper published. It misses the point that Open Access requires a whole new dialogue with a different group of customers (authors, institutions and funding bodies) about what they value and are prepared to pay for. This could have a very substantial impact on costs.”

“There are two other points which worry me. There is no allowance for the fact that not all articles published by open access will in fact be paid for. Anecdotally, the percentage of cases where neither author, institution or funding body can or will pay, but the article is published anyway, can be as high as 50%. We would expect this percentage to reduce as open access

becomes more accepted, but any substantial level of non-payment would require an increase in the fee to those who do pay. There is also no allowance for transition costs. The report compares one steady state (subscription-based journals) with another (open access journals) with no allowance for the cost of starting or converting titles to move from one state to the other. These costs will be very material.”

“Altogether I would feel very uncomfortable advising a publisher to take action on the basis of this report; there may be the chance of a genuinely lower cost publishing model based on simplified processes, or they may not. If there is, the benefits may be swallowed up by transition costs or negated by large numbers of authors not paying.”

Arie Jongejan, CEO, Elsevier Science & Technology Division

“Arie Jongejan believes that there are a number of myths and misconceptions. He argues that the open-access movement rests on three myths: (1) ‘that traditional publishing models hinder access,’ (2) ‘that open access is a free and egalitarian business model,’ (3) ‘that the current publishing process adds very little to the content being published.’ In addition, he argues that open-access journals would have to charge authors \$3500-4000 per article to cover their costs, and that upfront processing fees compromise peer review. He confines his criticisms to open-access journals, and supports open-access preprint exchanges and archiving.”

[Worlock, K. “Open Access: A step back in time?” [An Interview with Jongejan.] *IMI Insights*, October 2003. (Accessible only to subscribers.)]

Robert D. Wells, President, Federation of American Societies for Experimental Biology (FASEB), and co-signer of the Washington, D.C., Principles for Free Access to Science

“...Funds derived from publishing activities are ... used in some cases to fulfill the missions of scientific societies: the advancement of science and facilitation of scientific communications. This might include organization of meetings, scholastic support, educational outreach and other methods of information dissemination.

“Journals published by FASEB members and other scientific societies represent a wide range of approaches to scientific communication, and this diversity is a major strength: it lends itself to experimentation and innovation. These publications have also demonstrated that they are sustainable over many decades and, in this era of rapid change, are not tied to a single model of publishing” (Wells, 2004).

Open Access Position Statements

Throughout the community, several industry organizations have made public statements relating their position concerning the concept of open access and/or the PLoS open access model. From the publishers’ groups perspective the common tread is the welcoming of different business models and experimentation with the implication that they espouse the concept of “let a hundred ideas flourish” rather than the acceptance of a single approach to this aspect of electronic publishing.

Association of Learned and Professional Society Publishers (ALPSP)

“ALPSP is wholly in favour of maximizing access to research literature; the various proposals for achieving this (e.g. Open Access journals, institutional repositories, self-archiving), however, raise complex economic, logistical and sociological questions which differ from field to field as well as between different sizes and types of publishers. Much more information needs to be gathered through experimentation and analysis; ALPSP therefore welcomes the establishment of journals with different economic models for open access in order that the benefit to scholars and the long-term stability and viability of these models can be assessed” 27 August 2003 (Source: ALPSP website)

Blackwell Publishing Ltd.

“The combination of investment in technology and new pricing models is vastly increasing the access to journal content. As the publishing system develops it is likely that a number of different models will be tried and tested; the Open Access model is one of these. The customer, the research community, will decide what serves its needs best. Any publishing model will have to be sustainable, and not reliant on long-term subsidies or special funding.

“The case of Open Access has been widely promoted . . . The case against has not been so widely promoted because publishers are open to new models . . .

“Some of the societies for whom we publish are offering free access after 12 months, and we are trialling [sic] free access after six months with a title we own. Many societies like the idea of Open Access in theory, but are less sure of how it will work in practice.

[snip]

“The economics of any new system must cater for the development and communication of ideas from the lone scholar, the unfunded scholar, the young scholar and the non-English speaker. . . . The Human Genome Project is given as a successful example of Open Access but this model should not be conflated with the research journal, in which there is much greater editorial input.”

[snip]

“Recommendations

- 1. ... The Government should not . . . step in.*
- 2. ... The Government should bring down the VAT rating.*
- 3. Open Access is being widely promoted and trials of the model are being supported by JISC. It should be given every chance to compete in the market along with other models, but there is no case to favour it, especially as there are concerns over fairness (in terms of access by authors) and quality.*
- 4. . . . The societies should be widely consulted.*
- 5. . . . Funding of pilot joint schemes by JISC or some other agency could be productive and should be explored.” (Blackwell, 2004).*

Publishers International Linking Association (PILA)— Ed Pentz, Executive Director

“We believe that a problem with both the PLS [Public Library of Science] and PMC [PubMed Central] initiatives is that they do not sufficiently address the real needs of scientists. The Web’s potential can only be fully realized when scientists can obtain all the information they need in a convenient, comprehensive and efficient manner, through complete indexing, linking and searching. This should include all the relevant literature and information sources, not just journals. Any system needs to be sufficiently flexible to handle, and link in seamlessly, other sorts of publications, such as monographs, books, reference works, news and other media, as well as databases of ‘grey’ literature — such as research projects — and biological databases.

“To attempt to force all these sources into one, centralized, platform is not only naive but impossible, and defeats the very purpose and philosophy of the Web, which relies on diverse initiatives made interoperable by consensus standards across distributed platforms. Were such public centralized literature archives to happen, new initiatives would only come from government. The latter have generally a poorer track record in picking winners than the private sector where competition forces inferior technologies and services into extinction.

[snip]

“The PLS and PMC are increasing friction in scholarly publishing by taking a revolutionary and aggressive stance. The alternative is that publishers, scientists and librarians can work together to exploit technological advances, and invent new business models that decrease friction. We are in the midst of a very exciting time in scholarly journal publishing, and are really just at the beginning. In five to ten years, scholarly journals will be very different from how they now appear, and in retrospect it may be the evolutionary approach of CrossRef that will be recognized as having been revolutionary.” (Pentz, 2001)

International Association of Scientific, Technical & Medical Publishers (STM)

The STM stated that it believes that *“broadening and ensuring continuity of information access for researchers, scholars, and practitioners is a critical mission for all publishers.”* Issued on behalf of its 12-member Executive Board, the STM statement continues:

“Scientific research has never been more accessible than it is today. In recent years, STM publishers have been working closely with scientists, researchers, and librarians to lead the ongoing revolution in the dissemination of scholarly information. We have leveraged emerging technologies and invested hundreds of millions of dollars to make more scientific research information more accessible to more people than ever before. In the process, we have developed – and continue to develop – innovative and accessible business models to broad information access. Recent developments such as the flexible subscription licensing arrangements customised to meet the needs of libraries and consortia; ‘pay-per-view’ article access at prices within reach of non-subscribing individuals; and implementation of standards such as cross-linking protocols (such as CrossRef) and enabling technologies (such as the digital object identifier) have made seamless navigation and discovery possible across a growing web of published resources. The HINARI and AGORA initiatives are examples of how publishers are

bringing current research information within the reach of those who need it in low-income nations worldwide.

“Scientific disciplines differ in their scholarly communication practices. Journals differ from one another in their editorial content, features, sales models, and how they serve the needs of their specific research communities. STM applauds the multiple journal business models that have successfully emerged to serve the needs of authors and customers by ensuring the wide and continuous dissemination of consistently high-quality, independently validated research. We welcome additional publishers to our markets. As publishers of science, we naturally look forward to any new experiments in our field.

“Abandoning the diversity of proven publishing models in favour of a single, untested model could have disastrous consequences for the scientific research community. It could seriously jeopardize the flow of information today, as well as continuity of the archival record of scientific progress that is so important to our society tomorrow.

“It is the competitive and well-functioning market, and not governments, that must choose which business models and which publishers are best equipped to stay apace of the ever-increasing demand for information exchange.” 5 November 2003 (Source: STM website)

Open Access Experiments/Initiatives

Exact numbers of titles in this area of publishing are just as hard to collect as in any other. Earlier in this report the DOAJ was cited as claiming 766 open access journals in March 2004. In a *SciDevNet* posting on December 2, 2003, Stevan Harnad reported: *“There are currently 24,000 research journals (across all disciplines and languages, worldwide) publishing about 2,500,000 articles per year. Of these, about 600 are open-access journals, publishing about 75,000 articles per year.”*

But let's not quibble about the variances. What both figures indicate is that open access (even with the advent of recent PLoS titles) has a considerable distance to cover in order to become the dominant model for electronic publishing. A number of organizations are involved in experiments with various open-access models of publishing. Several of the most prominent are the following.

- The ARABIDOPSIS Book
- Bioline International
- BioMed Central
- *BMJ.com*
- The Company of Biologists
- E-BIOSCI
- e-Scholarship Repository
- *Florida Entomologist*
- The FIGARO Project
- *Nucleic Acids Research*
- *Physiological Genomics*

The ARABIDOPSIS Book—American Society of Plant Biologists (ASPB) and BioOne

Quoting from the ASPB website: *“This electronic book, The Arabidopsis Book (TAB), ISSN: 1543-8120, is an attempt at a new mode of communication between researchers and a new model for scientific publishing. TAB in its initial stage is a compilation of over 100 invited chapters, each reviewing in detail an important and interesting aspect of the plant Arabidopsis thaliana, with reference to what is known in other plants and in other kingdoms.*

“The ASPB version is organized into sections, then access is at the individual chapter level, in PDF only. BioOne provides both HTML and PDF versions of each chapter. In addition, BioOne has implemented a search interface.

“Although BioOne’s <http://www.bioone.org/> materials are primarily subscription-based. The Arabidopsis Book is one of a few BioOne collections that are Open Access.” (Source: ASPB website).

Physiological Genomics—The American Physiological Society (APS)

“[Since] July 1, 2003, authors [of Physiological Genomics] can choose to pay a \$1500 fee to have their article published online with Open Access from the first date of publication or choose to pay no author fees and leave their article under Subscription Access.

- *Open Access means that those online articles are completely free to any person or any library from the date of publication. All online content associated with the article (text, figures, supplemental material) is freely accessible.*
- *Subscription Access means that an individual needs a subscription or to pay a small, pay-per-view fee to access the online article for the first 12 months after publication. Twelve months after publication, all online articles and supplemental content related to those articles are freely available to the world.*

“Here’s how it works:

“Upon acceptance, the author will be asked to download a form, where he or she will choose author-fee-based Open Access or Subscription Access. If Open Access is chosen, the author will be asked to provide a credit card number, purchase order, or check for \$1500. Once the payment or purchase order is processed, that online article will be made free to all. The print and online journal containing the article will still be available for a subscription fee, but that article will be free online immediately — instead of after 12 months — because the author has paid the fee.” (Source: APS website)

Bioline International

“Bioline International is a not-for-profit electronic publishing service committed to providing open access to quality research journals published in developing countries. BI’s goal of reducing the South to North knowledge gap is crucial to a global understanding of health (tropical medicine, infectious diseases, epidemiology, emerging new diseases), biodiversity, the

environment, conservation and international development. With peer-reviewed journals from Brazil, Cuba, India, Indonesia, Kenya, South Africa, Uganda, Zimbabwe and more to come, BI provides a unique service by making bioscience information generated in these countries available to the international research community world-wide." (Source: Bioline website).

BI also hosts an e-prints archive at <http://bioline.utsc.utoronto.ca/>

BioMed Central

BioMed Central (BMC) is an independent publishing house committed to providing immediate free access to peer-reviewed biomedical research. *"All the original research articles in the 100 journals published by BioMed Central [as of March 2004] are immediately and permanently available online without charge or any other barriers to access. This commitment is based on the view that open access to research is central to rapid and efficient progress in science and that subscription-based access to research is hindering rather than helping scientific communication."*

BMC levies a flat fee of \$500 (called an "article-processing charge") for each accepted manuscript to be published in one of BioMed Central's open access online journals. This charge does not apply to titles requiring a subscription for access. These author charges are in lieu of subscriptions. Discounts are available to some authors. Unless an author receives a waiver (determined on a case-by-case basis or automatically granted if the author's institution is a BMC member), she must confirm at the time of submission that the charge will be paid upon the manuscript's acceptance for publication.

The February 23, 2004, issue of *UKSG Serials-eNews* reports the concern among librarians over the new BMC membership model, planned for 2005 renewals. The main issues that libraries have with BioMed Central are as follows:

1. *"That the revised policy was not announced in a proper way.*
2. *That an institutional membership based on number of articles published would be no better for libraries than traditional subscription models.*
3. *That the new model will cause problems in terms of budgeting.*
4. *That BioMed Central would have misled the library community.*
5. *That the new model transfers the cost of publishing from researchers to libraries."*

[For details, see the BMC website Institutional Membership page at: <http://www.biomedcentral.com/info/libraries/instmembership>]

BMJ.com

"Almost 10 years after it began, the BMJ's experiment of allowing free access to everything on its website will come to an end. The BMJ Publishing Group board has decided that from January 2005, visitors to bmj.com should pay for access.

[snip]

"Exactly which content will be behind access controls, for how long, and for whom has yet to be decided.

[snip]

“The model we are currently finalising for bmj.com is likely to make all content free for a week or two after publication. Most of it will then be behind access controls for a year or more. Content that we intend keeping free throughout this period includes abstracts of articles, rapid responses, and the Editor’s Choice column. All of BMJ Careers (Career Focus, recruitment and of course advertisements, and career services) will remain free” (Delamothe and Smith, 2003).

The Company of Biologists

January 1, 2004, marked the start of the Company of Biologists’ (COB) one-year open-access experiment with its three journals. COB will permit authors of accepted papers to have the option to “buy” open access to their articles by paying the journal's expenses for conducting peer review and preparing the electronic editions. Authors choosing to take advantage of the open access alternative will be charged a publication fee, which, as an introductory offer, COB will heavily subsidize.

“The traditional subscription model will operate in parallel as part of a hybrid publishing experiment. Authors will be asked to make the decision as to whether to take advantage of the open access offer when their papers are accepted. Those choosing the company's traditional free publication alternative will still benefit from no page charges, no colour charges, and free access to papers after 6 months.” (Source: Company of Biologists website)

E-BIOSCI (European platform for access and retrieval of full text and factual information on the Life Sciences)

E-BIOSCI, a subject-oriented aggregation, has the following

“ ...distinguishing features

- *Is a free academic access to services*
- *Places strong emphasis on concept searching of full text – a discovery tool*
- *Uses conceptual fingerprints to semantically link text with different data types (in particular genomic and image data)*
- *Links only to refereed material that meets criteria of editorial control*
- *Welcomes principles of free access, but respects existing restrictions of (commercial) content providers.”* (Source: E-BIOSCI website)

Entomological Society of America (ESA) and Florida Entomological Society (FES)

These two scientific societies offer IFWA (immediate free Web access) to their publications. The FES has allowed for 100% IFWA of its single quarterly journal since 1994. The ESA publishes four bimonthly journals and is currently about 55% IFWA. *“In November 1994, the month that Adobe made its Acrobat Reader cost free, Florida Entomologist became the first long-published, refereed, natural science journal to make its contents freely available on the Internet and the first journal to use PDF for that purpose. The Florida Center for Library Automation hosted the files for free so the cost to FES of the online version was only the cost of making the PDF files . . . Through 2000, FES continued its policy of not charging authors for IFWA.”* An author’s IFWA fee started in March 2001 to compensate for losses in library subscriptions. Thomas Walker, University of Florida, reports that no authors were lost to the imposition of an author’s fee—in fact, the “2001 volume was the largest on record, and the March 2002 issue is the first issue to exceed 300 pages.”

“IFWA, as currently offered by ESA, is limited to making the PDF files of articles freely accessible to anyone who views the contents of an ESA journal on the ESA server. Articles that have IFWA are labeled as ‘Free PDF.’”

“ESA’s business plan for its journals, as approved by the Governing Board in June 2000, states that the price of IFWA will be increased to preserve net revenues as subscriptions decline.

[snip]

“Authors are less likely to protest copyright agreements or to violate ones they have signed if publishers provide the legal means, at a fair price, for making the final, formatted, refereed version of articles immediately and freely Web accessible” (Walker, 2002).

The FIGARO Project

FIGARO stands for the Federated Initiative of GAP and Roquade, representing the Dutch and German universities collaborating to establish an infrastructure for academic electronic publishing in Europe. Funded by the European Commission, *“FIGARO will support:*

- *journals;*
- *publication sites with or without peer reviewing (peer reviewing may take place before or after publication);*
- *institutional repositories and other forms of open archives;*
- *co-publishing with traditional publishers, producing the electronic version of a journal that is already published in print.”*

FIGARO will rely on a network organization comprising service providers, front offices and a coordinator. Bas Savenije, University Librarian at Utrecht University in The Netherlands, explains that an *“important characteristic of this business model is that there is no central branding. . . . This construction has no simple equivalent in the classical publishing world. In fact, the traditional publishing role is now divided among several partners: the back office, the front office and the content provider.*

“An important characteristic of FIGARO is that it is not for profit, which implies that it is operating on a cost recovery basis. The back office is a financially independent entity . . . [whose]

costs ... are paid by the front offices.” Front office monies are generated by three principal means. The first is funding from its parent institution. The second relies on the traditional subscription model. And the third looks to new models as FIGARO intends to work towards new financial models that would be compatible with open access.

“‘Open access’ means that the costs are not paid by the reader. FIGARO is examining several potential sources of payment: authors’ page charges; payment for peer review by authors or their employers; institutional or society support of a discipline-oriented journal; purchasing of rights to publish by institutions or societies for their members; and potentially grants, donations, or sponsorships” (Savinije, 2003).

Nucleic Acids Research—Oxford University Press (OUP)

The first results on OUP ‘Open Access’ (OA) journal experiment were reported February 18, 2004. *“We are delighted with the results of our experiment so far,”* commented Martin Richardson, Managing Director of the Journals Division at OUP. *Whilst open access remains a young and economically unproven model for publishing research, as a University Press we are keen to take a leading role in responding to the changing needs of the research community . . .”*

The Press selected its premier journal, *Nucleic Acids Research (NAR)*, for the conversion of its special annual Database Issue to open access. Funding came in part from author charges with 90% of the authors agreeing to pay the £300 author charge. The issue contains a record number (142) of peer-reviewed papers and all are available online and free of charge. The goals of OUP’s OA experiment *“were to explore the issues surrounding the move of a well-established journal from a subscription-funded to author-funded business model, whilst at the same time safe-guarding NAR’s reputation for the highest quality research. The author charges were set at a low level, subsidised by subscription revenues from the rest of the journal, with the understanding that in order to be viable these charges would gradually need to increase to reflect the true costs associated with publishing a top research journal.”* (Source: OUP website)

OUP is extending the OA experiment to the 2004 *NAR* Annual Web Service Issue. Publication date: July 2004. More detailed information is available at:

<http://www3.oup.co.uk/nar/special/14/default.html>

eScholarship Repository— University of California

In the fall of 2003 the University of California unveiled to its researchers *“the ability to create and run an open-access, peer-reviewed journal within the framework of its eScholarship Repository.*

“The first digital journal to migrate to the eScholarship program, Dermatology Online Journal demonstrates the viability of peer-reviewed digital-only scholarship in medical science.

“Another publishing venue for peer-reviewed articles is the edited volume -- an edited collection of articles on a theme, usually with an introduction and conclusion to help tie the individual

articles together. The UC International & Area Studies Edited Volumes (UCIAS) edited volumes are a partnership of the University of California Press, the California Digital Library, and internationally oriented research units on UC campuses.” (Source: UC website)

[Visit <http://escholarship.cdlib.org/journals.html> and click on any of the titles for more information.]

Responses to the United Kingdom House of Commons Science and Technology Committee Inquiry into Scientific Publications

The sound of recent arguments regarding journal prices, open access, and open archives eventually reached the ears of the British Parliament. On December 10, 2003, the UK government initiated a request for opinions about the current state of STM publishing regarding pricing, market competition, open-access journals, Legal Deposit Libraries (institutional repositories), scientific fraud and malpractice. The House of Commons (HC) Sci-Tech Committee further probed to learn from the various constituencies what role would be appropriate for the Government to play in the future.

The Committee members are most specifically interested in which emerging trends the Government should support. [Initial inquiry at:

http://www.parliament.uk/parliamentary_committees/science_and_technology_committee/scitech111203a.cfm] The first two evidence sessions with primarily publisher witnesses were held on March 1 and March 8, 2004, respectively. Sessions with libraries, academics and government personnel took place in April and May 2004 [The most current dates and witness lists for upcoming evidence sessions are available at the Committee’s website:

http://www.parliament.uk/parliamentary_committees/science_and_technology_committee/future_committee_meetings.cfm]

By late May 2004, several commercial publishers, scientific societies, library associations, and various non-profit groups (primarily UK-based) had responded to the Committee’s series of questions and several have made their comments publicly available. Some highlights from those responses relevant to the issue of open access follow.

American Association of Law Libraries, American Library Association, Association of Academic Health Sciences Libraries, Association of College & Research Libraries, Association of Research Libraries, Medical Library Association, Public Knowledge, and Scholarly Publishing & Academic Resources Coalition [Joint memorandum, undated]

“ 9.1 ... We encourage the Science and Technology Committee to recommend that U.K. grant-making bodies recognize research dissemination as an integral part of the research process by earmarking a portion of their grant funds to be used for open-access publication . . .

[snip]

“9.2 The Committee should recommend to publicly funded U.K. grant-making bodies that they require authors to deposit a copy of their final, peer-reviewed paper in a fully searchable, freely accessible Internet repository or archive . . .

[snip]

“9.3 Today it is common practice for publishers to require that authors transfer copyright in their work to the publisher as a condition of publication. Typically, such transfer agreements do not enable authors to deposit their works in open digital archives, as advocated above, or to use the works in their teaching or research. Consequently, the Committee should recommend to U.K. grant-making bodies that they make it a condition of grant funding that authors retain copyright in their papers so that they may be deposited in open archives and otherwise used for educational purposes.”

Association of Learned and Professional Society Publishers

“A number of the existing Open Access journals are run on a volunteer basis by individual academics. While this may appear to make it possible for the journals to be free both to authors and to readers, this is perhaps misleading; the academics’ time is being paid for with their university salaries, as are their support costs and overhead. This is unlikely to be an approach which could be scaled up to include a significant proportion of existing journals without placing an unreasonable financial burden on the ‘parent’ universities; and it is debatable, too, whether this is the best use of academics’ time.”

[snip]

“Thus, while there are some very vocal enthusiasts for self-archiving, Open Access journals and so forth, they would appear to represent a very small minority of the academic community.”

[snip]

“There is no reason why Open Access journals should not be considered equally with subscription/licence journals for the RAE and other such exercises; the key measure – citation – is unaffected.”

[snip]

“There are different ways of supporting the development of Open Access journals. [snip] Mandating the use of Open Access journals in general, or even specific titles, however, is less likely to succeed; we are not convinced that authors will be persuaded to publish in those journals if they are not their journals of choice.”

[snip]

“A hybrid environment seems quite possible in the longer term, with Open Access becoming a (or even the) dominant model in certain disciplines, but not in others. However, the key will be authors’ behaviour; only if they perceive that their objectives in publishing will be better served by Open Access journals, are they likely to try to find the funds to cover publication charges.”

“At this juncture, ALPSP would not recommend that Government should take any direct action either to encourage or to discourage the growth of Open Access journals; publication in such journals should be evaluated by exactly the same criteria as publication in traditional subscription/licence journals.” (ALPSP, 2004).

Blackwell Publishing Ltd.

“Blackwell Publishing is the leading publisher of journals owned by societies.

“Within STM (Science, Technology, Medicine), societies are aware of Open Access as an issue. Some offer free access after a limited period but are not adopting the author-pays model. However they are watching the situation closely.”

[snip]

“Blackwell Publishing believes that the market is already competitive. Blackwell will experiment with the Open Access author-pays model although it is aware of the criticisms of this model, such as access limitations for authors from poorer countries and organizations, and the risk of declining standards.

“It is also difficult to see how Open Access might work outside the well funded research areas of molecular biology and medicine.”

[snip]

“New technology, eg [sic] full text searching, could reduce plagiarism but there are doubts over maintaining standards of peer-review with the Open Access model” (Blackwell, 2004).

The Chartered Institute of Library and Information Professionals

“All future merger proposals should be strictly monitored, and investigated. This will help to avoid the further enhancement of monopoly market power. It is also essential, given the international nature of the journals market, to extend co-operation across Nation States.

[snip]

“There should be no discrimination by the Research Assessment Exercise (RAE) for or against open-access journals. The deciding factor must be the quality of the journal and the quality of the article.

[snip]

“The rise of Web technology, by radically reducing the basic technical costs of access to information, has highlighted the prospect of a new model of scholarly communication, where access to research results would be made freely available to any interested researcher. This would maximise the impact of any piece of research, and thus the productivity of the whole research process. This approach is known as ‘open-access.’

[snip]

“Although a substantial proportion of the publishing community maybe expected to lobby in favour of the status quo, there is little evidence that open-access archiving damages sales of toll-access journals. Open-access archiving increases the readership of research far beyond the individual institutions that can afford to buy subscriptions.

“The extension of open-access models would lead to a more efficient use of public money in terms of both research grants and academic library budgets. It would also do a great deal to bridge the divide between information-rich countries and those in the developing world” (CILIP, 2004).

Electronic Publishing Trust for Development

“An additional consequence of the current ‘crisis’ arises from the difficulty developing country scientists have in publishing their own research, since costs of publishing local journals is prohibitive and publishing in established western journals often difficult. Thus, the global science knowledge base is incomplete. We are all the poorer, since local research is essential for the establishment of effective global programmes in medical science (specifically infectious diseases and emerging new diseases), medical practice, environmental science, agriculture, etc.”

[snip]

“The advent of the Open Access movement offers a light at the end of the tunnel. Technology now provides a mechanism whereby refereed research can be made available to all on an equal basis, without restrictions. The knowledge pool can be filled with the missing information, it can be shared between all scientists and the progress of science vastly accelerated . . . The impact of Open Access on scientific progress and prosperity in the poorer nations is of major significance.” (Electronic Publishing Trust, 2004).

Elsevier

“‘Open Access’ author-pays model risks penalising the UK because British researchers produce a disproportionately high number of articles every year. By charging authors for each article that has been accepted for publication, Open Access transfers the costs of publishing from institutions like commercial corporations, and libraries that serve readers, to researchers and their sponsors (e.g. universities, governmental funding agencies, and foundations). ... “we estimate that the UK Government, foundations, universities and researchers could together pay 30-50% more for STM journals in an Open Access system than they do today.”

[snip]

“In addition to these cost-transfer effects, there are key unresolved issues concerning Open Access:

- *By introducing an author-pays model, Open Access risks undermining public trust in the integrity and quality of scientific publications that has been established over hundreds of years . . .*
- *The Open Access business model in its current form has not proven its financial viability: even the highest article fees charged by Open Access publishers today (\$1,500) cover only about 40%-60% of the estimated total costs to publish an article of the quality that researchers are used to today . . .*
- *For universal access to be a reality, publishers must continue to make articles available in multiple media format.” (Elsevier, 2004).*

Institute of Mechanical Engineers

“While we support the statements made in the ALPSP submission, we would wish to add our own perspective. For us, journals are now a profitable part of our enterprise (Note that several have their origins in titles over a century old)”

. [snip]

“This is only a part of our business, however. Part of our rationale as a learned society publisher is to provide a mix of product types ... in furtherance of the subject and the profession ... a balance helps ensure that one type can help sustain another through difficult times ... Thus it follows that treating just one part of stm publishing in isolation risks unbalancing that portfolio.”

[snip]

“... there are, in principle, no reasons why publication in open-access peer reviewed journals should be any less regarded for assessment. However, simply because they are young (and like any new journal on the conventional model) there will often be no reliable method of judging quality, and citation counts may be suspect ... Subjective assessment of the quality of journals will inevitably remain a large factor.” (Singleton, 2004)

Institute of Physics

“IOP created one of the first open access journals in 1998: the New Journal of Physics (NJP). The term open access was unknown at the time. ... From the start, IOP and DPG [German Physical Society] have subsidised the experiment by about £100,000 a year and continue to do so.

“It is worth noting here that the electronic readership of NJP is not significantly higher than our regular subscription journals.

[snip]

“For open access to become the norm requires some fundamental changes, for example to the way research and university infrastructure funding are distributed.

[snip]

“Publishers in turn would be influenced to accept papers that came with money attached. Journals would benefit financially by publishing more papers, potentially increasing the number of weaker papers in the system – a contrast to the existing model where the economics favour tough peer review and selection on merit. Publishers might also be forced to reduce the attention given to papers, in the processes of peer review, editing, mark-up, electronic coding, and facilities on the electronic journal website such as searching and reference linking. Publishers who reacted in this way, publishing large numbers of papers with little attention, would be able to charge the lowest author fee and hence attract more submissions. Such an outcome would destabilise the current social structure of the academic community where publication in respected journals is regarded as an important measure of achievement.”

[snip]

“Should the Government support a trend to open access? We know the advantages and disadvantages of the present model. IOP experience with open access has not demonstrated significant advantages in terms of access to and dissemination of research results over our conventional journals, and shows the financial difficulties of moving to open access without a significant change in the way universities are funded. To replace the present model with a new model carries both known and unknown risks, without it being clear that there is a major benefit. For the Government to fund such a change would mean the Government assuming a large part of the risk, potentially for a considerable time. That is not to say that academics and publishers should not continue to experiment with alternative, web-enabled, publishing models.” (IOP, 2004)

International Union of Crystallography

From the Executive summary:

- “6. Assessment, selection and improvement of the content of scientific articles by peer review must remain paramount in future developments of scientific journals.*
- 7. Of equal importance for the growing numbers of journals that are available only in electronic format is the need to ensure their availability to future generations.*
- 8. Any economic restructuring of the scientific journals market (e.g. to promote open access) must guarantee the quality and longevity referred to in (6) and (7).”*

[snip]

“Recommendations

- 1. The survival of small and learned-society publishers must be encouraged to sustain the diversity of producers of scientific journals.*
- 2. Adequate funding must be made available to allow an orderly transition towards open-access provision.*
- 3. Government should actively support measures that ensure the long-term preservation and accessibility of electronic-only contributions to the literature.” (IUCr, 2004).*

John Cox Associates

“The concept of scientific information being freely available to everyone is a seductive one. Within the past two years the ‘Open Access Movement’ has gathered a head of steam, and has certainly engaged the attention of both librarians and many researchers. I am in the position of a skeptic, if only because the enthusiasts for open access tend to describe its advantages in quasi-religious terms rather than in objective systematic and organisational terms.”

[snip]

“The Committee should note that much of the demand for Open Access has arisen in the life sciences . . . In considering the efficacy of Open Access as an alternative publishing model, the Committee should explore its appeal and applicability to other disciplines.”

[snip]

“There is a very slight risk that Open Access publishing, in which the author or his/her agent funds publication, may weaken the integrity of peer review. If the publishing process is funded by the author, there is a potential for the exercise of undue influence on editors anxious to build the flow of papers for publication in their journals. In the current subscription-based publishing system, the flow of money is wholly divorced from the process of review and acceptance for publication. In Open Access publishing, the flow of money to support the enterprise is very closely linked to acceptance for publication.” (Cox, 2004).

Oxford University Press

“OUP believes that a variety of different pricing models are necessary and that no one model is likely to be able to meet the requirements of the wide range of journals that we publish. Since open access publishing does not yet represent a viable model in that no publisher employing this model has yet managed to cover its costs, a period of experimentation seems prudent to help to decide whether open access can deliver on all of the benefits that its proponents have claimed.

[snip]

“In order to reduce barriers to accessing scientific information published in subscription-based, online journals we propose that the Committee should recommend that:

- *funding for the purchase of online access to research should be increased in line with increases in research funding;*
- *VAT on online journals should be abolished, or educational and research institutions should be exempt from payment of VAT;*
- *funding should be made available for the creation of a permanent electronic archive” (OUP, 2004).*

The Physiological Society

“The Society has approximately 2000 Members from around the world but the membership rate is not sufficient to cover these other activities [charitable goals of the Society], and there are no other ways to raise revenue for this dissemination of information to which the Society is committed.

[snip }

“The Society is, however, committed to open access as far as is possible and 1 year after publication we allow completely free access to our electronic archives. We also allow immediate free access to institutions in designated developing countries.

“Loss of income from journals subscriptions would have a severe effect on the Society to fulfill its charitable goals or indeed publish the journal at all without charging the authors significant submission and page charges. In our view this could deter submission of good papers from those scientists who do have sufficient resources” (PS, 2004).

Public Library of Science

From the “Recommendations”

“1.12 Asserting that restrictions on the distribution and use of research articles describing publicly funded research are inconsistent with the goals of the government in funding research.

1.13 Mandating (following a suitable transition period) that all research articles arising from publicly-funded research be made immediately and permanently available to the public by open access publication and deposition in a suitable public repository at the time of publication.

1.14 Designating a portion of university funding for the support of open access publication charges to provide the means for faculty and researchers (particularly those without specific grant funding) to publish in open access journals.

1.15 Designating a portion of NHS funding for the support of open access publication charges to provide the means for clinicians and researchers (particularly those without specific grant funding) to publish in open access journals.

1.16 Including reasonable (and ring-fenced) funds to cover the costs of open access publication in all Research Council grants to encourage grantees to publish their work in open access journals.

1.17 Requiring universities and granting agencies (including the Research Assessment Exercise) to consider the intrinsic merits of a published article, rather than the impact factor of the journal in which the article is published, in promotion and funding decisions, recognizing that the canonization of journal impact factors inhibits the development and growth of new publishing endeavors.

1.18 Establishing a temporary ‘open access transition fund’ to which publishers can apply for funding to facilitate the transition from subscription-based journals to open access publishing.”

From the “Executive Summary”

“1.9 By shifting from a monopolistic market on scientific knowledge, to a free-market for publishing services, open access will restore market efficiencies to scientific publishing. By treating the costs of publications as costs of research and including funds in research grants, monies available for publication will scale with publication expenses. Thus, open access is intrinsically sustainable, whereas the current system clearly is not.”

From “The Open Access Business Model”

“4.1 Even if all publishers eschewed profits and charged libraries only their fair share of each journal’s production costs, the simple act of restricting access to subscribers creates unnecessary and counterproductive obstacle to the access and use of the scientific literature. ... By adopting an ‘open access’ model for scientific publishing, in which publishers are paid a fair price for the service they provide the scientific community we can maintain a vibrant scientific publishing industry while providing comprehensive, universal access to the scientific literature.”

From “Why is Open Access Important?”

“5.1 Shifting the business model from ‘pay-to-read’ to ‘pay-upfront’, brings profound benefits for research, education and health and creates a competitive market that will help both reduce

and stabilize costs. The promise of open access publishing for the key stakeholders in publishing will help to catalyze the changes that are necessary.

5.2 For authors, open-access literature maximizes the potential impact of their work. . . .

5.3 For the academic research community, open access . . . will provide the essential foundation for the development of diverse new ways to search, interlink and integrate the information in published research papers. . . .

5.4 For research libraries, open access will help contain the spiraling costs of subscriptions to scientific serials. . . .

5.5 For funding agencies, open access will ensure that the research they have invested in will be made available to the widest possible audience . . .

5.6 For scholarly societies, open access will provide the means by which the research they promote can reach new audiences . . . Moreover, open access provides a financially realistic means to launch new journals or publications in burgeoning fields.

5.7 . . . open access will foster science education . . . lead to more informed healthcare decisions . . . and make publicly funded research available to the public

5.8 In the commercial sector, open access will empower industry with unfettered access to the latest scientific discoveries. . . .

5.9 Importantly, open access will also allow market forces to operate effectively for STM literature and consequently provide a choice for authors ... that will help contain costs and reward the most efficient publishing operations.” (Varmus, 2004)

Royal College of Psychiatrists

“... the majority of published papers are by members of the College. . . . members receive free print copies of the journal, and have free access to the online versions. We therefore have a system where our authors are not charged for publishing in our journals, and they and their colleagues are not charged to read the journals either. Costs are covered and income generated to a large extent by sales of subscriptions to libraries serving other groups of professionals who on the whole need our journals but don't publish in them.

[snip]

“...if we were to lose members as a result either of cancellations of free print or of provision of universal open access to the journals, this would have a negative impact on the other work of the College.

[snip]

“...the options are not limited to open access and access by subscription. For example, we have taken the following steps:

- All issues of our journals are made available free online to everyone 12 months after publication, on a rolling basis.*
- The College's primary journals (print and online) are available to all College members at no cost.*
- Journal papers accessed via reference in other journals on the HighWire system (such as the BMJ or the American Journal of Psychiatry) can be viewed free of charge, regardless of whether the user has a subscription.*

- *We allow free access to the journal from 75 low-income countries, using a system which recognises the country of origin of the user's IP address.*
- *Print editions of the BJP, paid for by local advertising, are circulated free of charge to readers in India, Holland, Denmark, Finland, Norway and Sweden.*
- *All contents lists (including electronic contents alerts) and search mechanisms are available to all free of charge. The journal is abstracted in PubMed and many other major listings services. In addition, the full text of the journals is indexed by Google. We are members of CrossRef, an industry-wide system which sets up links from reference lists in journal articles directly to the reference in question. Abstracts of all papers are available to view free of charge.*
- *Any article for which access by a particular user is restricted can be viewed using the pay-per-view system, for a fee of \$8.00 (commercial publishers commonly charge around \$30). For \$15.00, the entire journal can be viewed for 24 hours."*

[snip]

"The College believes that the open access question is not an ideological issue, pitting 'open' against 'closed' access, but simple an economic one of who pays for access and at which point in the supply chain" (RCP, 2004).

The Royal Society

"The Royal Society is in favour of the widest possible dissemination of science but we believe that the current proposals for Open Access journals (where papers are free online to all) lack a sustainable business model. There are many uncertainties about how Open Access journals will operate as they become established and where authors will get the money to pay the required article processing fees. This has led to concerns that: the overall cost of the science base will be greater than under the subscription model, some authors will be unable to publish in certain journals due to lack of funds, the quality of publications may be reduced as publishers bow to commercial pressures to reduce the rejection rate of papers, it will not be possible to cross-subsidise minority interest publications, and that the total number of scientists funded by charities will be reduced in order to pay publishing fees."

[snip]

"Given the global nature of scientific publishing, it is not clear how a national government (apart perhaps from the US . . .) can have a substantive impact on the market.

[snip]

"JISC [Joint Information Systems Committee] is paying the subscription fee for all UK universities so that researchers do not have to pay individual acceptance fees. It is unlikely that this central funding of Open Access journals will be sustainable in the long terms without additional funding being allocated to JISC. In order to allow scientists the freedom to choose where they submit their papers (a key requirement of any system) the central payment of submission fees would need to be extended to all open access publishers (in the UK and overseas) as they emerge.

[snip]

“There has been no proper estimate of whether the funds that would be required to meet processing fees would be greater or less than the money allocated to libraries for their acquisition budgets” (RS, 2004).

SHERPA: Securing a Hybrid Environment for Research Preservation and Access

The SHERPA project is funded by the Joint Information Systems Committee (JISC) and the Consortium of University Research Libraries (CURL) and is hosted by the University of Nottingham. Additional information can be obtained at <http://www.sherpa.ac.uk>

From “Background”

“2.2 . . . SHERPA . . . is initiating the development of openly accessible institutional digital repositories of research output in a number of UK research-led universities . . .”

From “Solutions: open access”

“4.3 The movement for open access has focused on two strategies: open-access journals and open-access repositories. The two strategies are complementary and not competitive. Both achieve the key aim of improving access to the scientific literature. Both offer the potential for major efficiencies in scientific publishing.”

From “Key issues in the development of open-access institutional repositories”

“5.7 The widespread adoption of open-access repositories may . . . over time change the role of journals. Traditional journal publishing bundles together peer review with distribution of content. These functions could, however, be unbundled. If open-access repositories increasingly become vehicles for content distribution, publishers could re-focus their missions to become managers of peer review, and also providers of other appropriate value-added services.”

From “Recommendations”

*“7.2 Authors should be discouraged from signing over exclusive rights to publishers and should retain (at least) electronic distribution rights for their papers. Where research work is publicly funded, it should be made a condition of grant that authors cannot sign-over copyright.
7.3 Public funding agencies should mandate (as a condition of grant) that work they have funded must be made publicly available either in open-access journals or in open-access repositories.”*
(Hubbard, 2004).

Society for General Microbiology

“Electronic publications are subject to VAT at 17.5% in the UK, while print is zero-rated. This militates against the development of online only sales and access packages, to the financial disadvantage of UK universities and institutions. Government should support extension of zero-rating to electronic provision of primary research material.”

[snip]

“Most open access journals will require authors, or their institutions, to pay some form of submission or publication charge. This will focus authors’ minds on differences in costs between different journals. This may promote efficiency and constrain profit margins, but it would be regrettable if it led to significant reduction in editorial and production standards.”

[snip]

“It is worth mentioning that many not-for-profit publishers, including SGM, already have substantial amounts of their content on open access, where this is possible without damaging subscription income. ...” (Fraser, 2004).

Society for Endocrinology

From “Thoughts on Open Access”

“... we would like to summarise the main reasons why there is a problem that needs the Select Committee’s attention. In the view of the Society’s Publications Committee there are two main factors.

4.1 In the last half-century or so, the provision of funds for carrying out research has far outstripped the funds to buy the output of that research. At the same time, it is essential for all research to be published in order to be validated and available to one’s peers. This is not to deny that some publishers have charged large prices for their journals and made substantial annual increases, but this is not true of all publishers. Certainly in many subject areas the learned society journals, which often have the highest impact factors, are more moderately priced than their commercial competition. [snip]”

4.2 There is currently no link between the responsibility for choosing which journal to publish in and to read (the academic’s choice) and responsibility for the purchase budget. Most researchers have little or no idea of the comparative prices of the journals available to them. This has certainly fostered a climate where some journals can have prices that are orders of magnitude higher than those of their competitors without suffering any loss of subscriptions. Indeed, their ability to spend lavishly on promotion, financial support for editorial boards and so on may even give an advantage in some cases. Open access would bring value for money into the equation as one of the decision factors in where to submit research, along with quality and reputation. This is likely to be more of a factor with the quality journals that sit just below the market leaders (often US societies).”

From “Conclusions”

*“6.1 **Electronic publishing** of journals and **open access** are two different issues.*

[snip]

*6.4 In discussing whether it could or should promote **open access**, the committee will need to be informed about the substantial difficulties that lie in the way of a **transition** to this model, bearing in mind that the typical journal publishes material from researchers in many countries,*

all of which have different funding systems and priorities. Annex 3 contains an article on open access that briefly outlines some of these issues.”

From Annex 3 “Open Access as a model for scholarly communication: Some thoughts from the Society for Endocrinology February 2003”

“At the Society for Endocrinology, we have been enthusiastic about the Open Access model for some time. . . . ”

[snip]

“In order for Open Access publishing to be viable, charges to authors may well need be higher than many academics would currently expect. They will almost certainly significantly exceed the US \$500 typically charged by the current experiments using this model (such as BioMed Central or the New Journal of Physics). . . . the fact that the libraries will no longer have to buy, store and provide access to these journals will presumably release not just the former purchase costs, but also some of the overheads associated with them.”

“We need to take into account that the Open Access/author pays model may not work for all subject areas or type of journal. For instance, many articles in some clinical journals are based on the authors’ observations during their clinical work and have no research grants associated with them. How would these papers/journals be funded? If such papers were no longer published, clinical practice and patient care would clearly suffer. In addition, review journals are clearly not susceptible to the ‘author pays’ model.”

“The major obstacle in the case of basic research journals seems to be how we get from here to there. For Open Access to succeed there will need to be a global culture change. . . . It is difficult to see how this can be affected piecemeal, an international, co-ordinated approach seems to be needed, which is likely to be difficult to achieve. ... ”

[snip]

“We had also assumed that, as a small learned society, we would need to follow rather than lead, but if there is scope for a national (or better still, international) trial project, then perhaps the learned societies have a bigger role to play.” (Thorn and Byford, 2004).

SPARC Europe

From “The Current Situation”

“Finally, Society as a whole loses if we continue with the sub-optimal communications channels that restrict the free-flow of information between the world’s scholars and between scholars and the public. The recent Organisation for Economic Co-operation and Development’s ‘Declaration on Access to Research Data from Public Funding’ noted that ‘...an optimum international exchange of data, information and knowledge contributes decisively to the advancement of scientific research and innovation’ and that ‘... open access will maximise the value derived from public investment in data collection efforts.’ While the focus of the

Declaration, signed by the UK and 33 other countries, is on research data, the language and logic are equally applicable to the analysis of those data – i.e., research papers.”

From “The Power of Open Access”

“ ... it is clear that the evidence is beginning to show that Open Access does give greater dissemination, usage, and impact and as authors become more aware of this they are increasingly going to want to publish in Open Access journals and to deposit their papers in their local institutional repositories.” (Prosser, 2004)

University of Southampton

“The University hopes that the Parliamentary Committee will consider the following actions:

- *recommend that those researchers receiving grants for publicly funded research should self-archive their research output in an institutional open-access archive*
- *recommend that authors self-archive, and that publishers formally support author self-archiving*
- *incorporate into publicly funded research contracts a publication grant to cover the costs of institutional archiving and/or author charges for an Open Access journal*
- *provide funding through bodies such as the Joint Information systems Committee for national initiatives in support of open access journals and institutional open-access archives*
- *recognise that more effective assessment methods for determining research impact can be achieved by the use of scientiometric analysis at article level in an expanded corpus of open-access, full-text, peer-reviewed literature*
- *promote initiatives through the British Library and partners in the EU, such as the Royal Library in the Hague, to ensure that research output in digital form is preserved*
- *lobby intensively within the EU for the removal of VAT on e-journals” (US, 2004)*

Wiley

From “Summary”

“We welcome the opportunity to experiment with new models of information dissemination (such as open access), bearing in mind the following key issues:

- o *the importance of an independent system for publishing high-quality science, free from government or charitable subsidy or mandated submission, and irrespective of discipline, provenance of authorship, or ability to pay.*
- o *the sustainability and scalability of publishing models to ensure the continuity and accessibility of the authentic scientific record – a simple pared-down cost-recovery business model does not give sufficient opportunity to invest in product development and content delivery technologies or to ensure that due care and attention is given to important legal issues relating to fraud, malpractice and plagiarism*
- o *an equitable relationship between producers and consumers of scientific information, such that current net producers of research (e.g. the academic community of “UK plc”) do not subsidise net consumers (e.g. the pharmaceutical*

industry or low-primary-research countries who currently purchase more research publications than they produce)."

From "Specific Response to the Open Access Debate"

"24. It is not in dispute that the publishing process has to be paid for, so the essential question becomes 'who pays?'. We think it is unlikely that authors themselves will pay; neither do we think faculty will pay; nor are library acquisition budgets likely to be repositioned as publishing-process fees. The most likely payers are the funding bodies and research councils, and although some (such as the Wellcome Trust) have announced that they would be willing to take on this extra charge as part of the research grant, we understand that the precise disposal of research funds is already not straightforward, with universities often having to negotiate over such issues as contribution to overheads, and we suspect that the funding will no be so readily forthcoming or may not be earmarked and run the risk of being spent on other research activities. Research funding also varies greatly from discipline to discipline." (WileyEurope, 2004).

World Cancer Research Fund International

"The WCRF global network has the unique role of translating scientific data into global health recommendations.

[snip]

"Our 1997 report reviewed approximately 4500 journal articles and this number is expected to be about 3 times that for the 2006 report. The financial cost of remaining within the copyright law is going to be extremely high for this project, especially since such a vast amount of literature will be reviewed.

"If the copyright for scientific publications were restricted to just one year, it would mean that the historical literature would be available for systematic review in an all-encompassing project of this kind, without the crippling financial burden that currently exists.

"Finally, the Government should consider encouraging government-funded projects to publish their results in open access journals. This is especially important for medical research where patients freely give information about themselves to researchers in the belief that that information will be made freely available to other researchers." (WCRFI, 2004).

World Summit on the Information Society

From Section 22. E-science of "Declaration of Principles"

"b) Promote electronic publishing, differential pricing and open access initiatives to make scientific information affordable and accessible in all countries on an equitable basis"

From Section C3 "Access to information and knowledge"

“i) Encourage initiatives to facilitate access, including free and affordable access to open access journals and books, and open archives for scientific information.”

From Section C Action Lines of “Plan of Action”

“28. We strive to promote universal access with equal opportunities for all to scientific knowledge and the creation and dissemination of scientific and technical information, including open access initiatives for scientific publishing.”

From “The issues within the framework of the WSIS”

“II. Open-access Journals: ...scholars need the means to launch a new generation of journals committed to open access, and to help existing journals that elect to make the transition to open access.” (WSIS, 2004).

Who will pay?

Many of the statements reported previously in this report included comments on the issue of who will pay in an open-access model of journal publishing. The following are just a few more that point out some concepts not mentioned earlier.

Hal Varian in an Internet debate with Stevan Harnad observed that *“in the long run an economic system tends to favor those who pay . . . if authors pay, the system will lean toward the author’s goal (getting published) . . . if readers pay, the system will lead towards the readers’ goal (effective filtering).”*

Arie Jongejan, CEO of Elsevier’s Science and Technology Division, views open access as less financially viable and less efficient than the traditional business model for journal publishing. In her interview with Jongejan, Kate Worlock of EPS, Ltd. reported that *“open access has high back-office costs and Jongejan believes that open access publishers will need to demand between \$3,000 and \$4,500 per article to cover publication costs. However, even this does not take account of a more conceptual difficulty with open access, which is that OA publishers are charging an upfront fee for a potentially indefinite service. If, owing to technology developments, the database content needs to be converted or retagged, an OA publisher would struggle financially because they would not be able to go back to their authors to demand more money.”*

Where do we go from here?

After reading the numerous and various experiences, opinions, and statements on several sides of the OA issue, a few last comments are appropriate to consider as the reader looks to the future of electronic journal publishing.

Christine Lamb, Senior Analyst with Shore Communications, Inc., observed in her February 2004 report on OA publishing models, *“[w] hile new players with open access Web portals are capturing much of the spotlight centered on open access, the established publishing houses carry prestige and authority in the marketplace that will be difficult to overcome with technology and pricing models alone.”* Lamb opines that the *“established publishing community can choose to view open access as either a threat or*

an opportunity.” She compared the different implications for association, not-for-profit, and commercial scholarly publishers. Lamb states that the association publisher faces “*greater pressure to adopt open access models from their members and activists in the field*” and “*the associations most threatened by open access are small ones, for which a single journal is the sole or major benefit of membership.*” (Lamb, 2004).

Considering non-profit publishers such as university presses, Lamb cites them as being more innovative than their association colleagues but still facing the same threats and pressures. However, she offers that non-profit publishers are “*better positioned [than associations] to apply for grant funding and subsidies for their programs from foundations and funding agencies.*” Turning to commercial publishers, Lamb cites the pressure on prices as the greatest threat from open access. Closing that section of her report, Lamb counsels, “*Without abandoning their current business all publishers should consider incorporating a combination of modified open access strategies . . .*” (Lamb, 2004).

In her discussion of OA and copyright, Lamb states, “*In the final analysis, open access models are copyright-neutral. Authors should be able to choose open access or closed access and manage their copyrights accordingly. It is publishers’ policies requiring copyright transfer that should be reconsidered and relaxed.*” (Lamb, 2004).

In its response to the House of Commons Science and Technology Committee inquiry into scientific publications, the UK-based publishing operations of Elsevier observed “*Open Access will continue to evolve in response to market forces, particularly as it seeks additional sources of operating revenue to make it financially viable.*” [Source: Elsevier website, <http://www.elsevier.com>]

Karin Wittenborg, University Librarian, University of Virginia, in her presentation at the March 16, 2004 press conference unveiling the Washington, D.C. Principles for Free Access of Science stated:

“Scholarly publishing is clearly in a transitional or shake down period. Several publishing models can and should co-exist. The successful ones will survive and will deliver high quality content in a sustainable and affordable manner. They will also advance research and high education” (Wittenborg, 2004).

Declan Butler, European correspondent for *Nature* in that journal’s March 23, 2004, Web Focus observed the following.

“One jarring aspect of proposals to reform scholarly publishing is that, all too often they implicitly consider ‘journals’ as a single homogenous entity, to which one universal publishing model can be applied. On the contrary, diversity is everywhere. In any discipline, journals range from high quality ‘must reads’ with high rejection rates – which in turn result in higher costs per published paper – to publications which add little value to the articles as submitted, and are read by few apart from the authors themselves.

“Journals are also published by a range of patrons, from individuals, and commercial publishers, to learned societies who use publication revenues to support their community in other ways. Likewise, a journal might be run largely by scientists working for free, or by professional editors. Some are electronic only, some have print editions. The list goes on. Any

discussion of publishing models must surely take into account this heterogeneity. There is no one-size fits all solution” (Butler, 2003).

In its response to the House of Commons committee inquiry (February 2004), The Royal Society commented that:

“There is a need for all interested parties (authors, librarians, research funders, higher education policy makers and publishers of both traditional and Open Access journals) to work together to address these concerns and determine whether a sustainable business model for open access publishing can be developed” (RS, 2004).

Thomson-ISI recently released a citation study of the impact of OA journals which is part of an ongoing analysis within ISI regarding the performance of OA journals. The results of the study showed what might be expected among a number of journals (N = 148) from a variety of disciplines, that *“Open Access journals’ ranks in their respective categories vary. Some rank near the top of the category (e.g., Journal of Machine Learning Research, CA A Cancer Journals for Clinicians, and IBM Journal of Research and Development), while others rank near the bottom (e.g. Journal of Astrophysics & Astronomy, Annals of Saudi Medicine, Japanese Heart Journal, BMC Public Health, Japanese Journal of Infectious Diseases, Scottish Medical Journal, Turkish Journal of Pediatrics, Biotechnology and Development Monitor, and Brazilian Journal of Microbiology). Overall, 98 (66%) of the journals rank below the 50th percentile. Relatively few, around 6%, are in or above the 91st percentile.” (Testa and McVeigh, 2004).*

The major findings of the study were:

- ◆ *When observed as a group “ . . . OA journals have a broadly similar citation pattern to other journals, but may have a slight tendency to earlier citations.”*
- ◆ *“When examined within two specific subjects, the possibility for wide distribution of OA journal articles has, so far, no discernable effect on the speed with which the literature incorporates the results they describe”*
- ◆ *“As with traditional journals, there are many possible explanations for whether or not OA journals are highly cited. Many of the OA titles that have been indexed in ISI products for many years have only recently shifted to an Open Access model of distribution. They have carried their citation patterns along into the Open Access environment.”*
- ◆ *“Conversely, other journals founded recently employing the Open Access format are being cited or not based on the overall quality of their articles.”*
- ◆ *Testa and McVeigh comment that during their tenure with ISI, they watched thousands of journals be evaluated (and subsequently selected or rejected) for inclusion in the citation database. Their ultimate finding is that “wide distribution does not necessarily result in higher citations.” (Testa and McVeigh, 2004).*

The reader is encouraged to read the entire essay prepared by James Testa, Director, Editorial Development, Thomson-ISI and Marie E. McVeigh, Product Development Manager, Thomson-ISI. Testa and McVeigh state that ISI will continue to *“monitor the performance of the set of high-quality OA journals it has selected for inclusion in its citation indexes and in the Journal Citation Reports.”* (Testa and McVeigh, 2004).

Concluding Comments

This Issue Status Report was prepared with as neutral and objective a tone as possible, given to reporting “just the facts” from all sides of a highly charged debate. There can be no true conclusion to this document. The debate will continue for as long as the interested parties care to expend their energy on it. Thus, it is but a snapshot in time. And only time will tell the future place for OA journals in the world of scholarly publishing.

Reading List, Including References Cited in Text

AAP/PSP (Association of American Publishers/Professional and Scholarly Publishing Division). 2004. “Copyright and Public Access to Federally-Funded Scientific Research: The Erroneous Premise of Open-Access Advocates and H.R. 2613.” January 2004. Available at: www.pspcentral.org

AARL (Association of Research Libraries). 2004. “Framing the Issue Open Access.” [Accessed February 28, 2004. Last modification cited February 26, 2004.] Available at: http://www.arl.org/scomm/open_access/framing.html

ALPSP (Association of Learned and Professional Society Publishers), 2004. “Response to Science and Technology Committee Inquiry into Scientific Publications.” Available at: <http://www.alpsp.org/2004pdfs/S&TcommALPSPresponse.pdf>

Avila-Villalobos, A. 2004. “The benefits of reinvestment.” Presentation at the Washington D.C. Principles for Free Access to Science press conference. National Press Club, Washington, D.C. March 16, 2004. Available at: www.dcprinciples.org

Banks, P. 2004. “Open access: a medical association perspective.” *Learned Publishing* 17(2) April 2004. Current volume full text available to members at: <http://www.alpsp.org/journal.htm>

BBC. 1999. “Setting research papers free.” *BBC News Online: Education: Features*. 16 November 1999. Available at: <http://news.bbc.co.uk/1/low/education/features/521816.stm>

Berlin Declaration Signatories. 2004. “Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities.” (Accessed February 28, 2004. Last change cited February 23, 2004.) Available at: <http://www.zim.mpg.de/openaccess-berlin/berlindeclaration.html>

BioMed Central. 2003. “Feature: Conversation with Gerry Rubin.” *Open Access Now*. July 14, 2003. Available at: <http://www.biomedcentral.com/openaccess/archive/?page=features&issue=1>

BioMed Central. 2003. “Feature: Conversation with David Lipman.” *Open Access Now*. July 28, 2003. Available at: <http://www.biomedcentral.com/openaccess/archive/?page=features&issue=2>

BioMed Central. 2003. “Feature: Sabo bill sparks copyright controversy.” *Open Access Now*. August 25, 2003. Available at: <http://www.biomedcentral.com/openaccess/archive/?page=features&issue=3>

- BioMed Central. 2003. "Feature: Meet the editors." *Open Access Now*. September 22, 2003. Available at: <http://www.biomedcentral.com/openaccess/archive/?page=features&issue=5>
- BioMed Central. 2003. "Interview: Elizabeth Marincola." *Open Access Now*. October 6, 2003. Available at: <http://www.biomedcentral.com/openaccess/archive/?page=features&issue=6>
- BioMed Central. 2003. "Interview: MacKenzie Smith." *Open Access Now*. October 20, 2003. Available at: <http://www.biomedcentral.com/openaccess/archive/?page=features&issue=7>
- BioMed Central. 2003. "Interview: Martin Richardson." *Open Access Now*. November 3, 2003. Available at: <http://www.biomedcentral.com/openaccess/archive/?page=features&issue=8>
- BioMed Central. 2003. "Interview: Beverlee French." *Open Access Now*. November 17, 2003. Available at: <http://www.biomedcentral.com/openaccess/archive/?page=features&issue=9>
- BioMed Central. 2003. "Interview: Les Grivell." *Open Access Now*. December 1, 2003. Available at: <http://www.biomedcentral.com/openaccess/archive/?page=features&issue=10>
- BioMed Central. 2003. "Interview: Subbiah Arunachalam." *Open Access Now*. December 15, 2003. Available at: <http://www.biomedcentral.com/openaccess/archive/?page=features&issue=11>
- BioMed Central. 2004. "Interview: Journalists speak out for Open Access." *Open Access Now*. January 19, 2004. Available at: <http://www.biomedcentral.com/openaccess/archive/?page=features&issue=12>
- BioMed Central. 2004. "Interview: Keeping open house at the BMJ." *Open Access Now*. February 16, 2004. Available at: <http://www.biomedcentral.com/openaccess/archive/?page=features&issue=13>
- Blackwell Publishing Ltd. 2004. "The House of Commons Science and Technology Committee Inquiry into Scientific Publications Response from Blackwell Publishing Ltd." February 11, 2004. Available through a link at: <http://www.nature.com/nature/focus/accessdebate/evidencelinks.html>
- The Boston Globe. 2003. "A science experiment." *The Boston Globe*. August 17, 2003. Abstract available at: [http://nl.newsbank.com/nl-search/we/Archives?p_product=BG&p_theme=bg&p_action=search&p_maxdocs=200&p_text_search-0=%22a+science+experiment%22&s_dispstring=a+science+experiment%20AND%20date\(8/17/2003%20to%208/17/2003\)&p_field_date-0=YMD_date&p_params_date-0=date:B,E&p_text_date-0=8/17/2003%20to%208/17/2003&p_perpage=10&p_sort=YMD_date:D&xcal_useweights=no](http://nl.newsbank.com/nl-search/we/Archives?p_product=BG&p_theme=bg&p_action=search&p_maxdocs=200&p_text_search-0=%22a+science+experiment%22&s_dispstring=a+science+experiment%20AND%20date(8/17/2003%20to%208/17/2003)&p_field_date-0=YMD_date&p_params_date-0=date:B,E&p_text_date-0=8/17/2003%20to%208/17/2003&p_perpage=10&p_sort=YMD_date:D&xcal_useweights=no)
- Brown, P. 2004. "Vantage Point: PLoS co-founder defends free dissemination of peer-reviewed journals online." *Stanford Report*. February 26, 2004. Available at: <http://news-service.stanford.edu/news/2004/march3/vantagebrown-225.html>
- Brown, P.O., Eisen, M.B., and Varmus, H.E. 2003. "Why PLoS became a publisher." *PLoS Biology*, vol. 1. October 2003. Available at: www.plos.org
- BOAI. 2002. "Budapest Open Access Initiative." February 14, 2002. Available at: <http://www.soros.org/openaccess>

BOAI. 2003. "Budapest Open Access Initiative: Frequently Asked Questions." [Accessed February 12, 2004. Last revision cited August 11, 2003.] Available at: <http://www.earlham.edu/~peters/fos/boaifaq.htm>

BOAI. 2004. "Valparaiso Declaration for Improved Scientific Communication in the Electronic Medium." II Latin American Workshop on Resources and Possibilities for Electronic Publication, January 15, 2004. *BOAI Forum*. February 4, 2004. Available at: <http://threader.ecs.soton.ac.uk/lists/boaiforum/313.html>

Butler, D. 2003. "Scientific publishing: Who will pay for open access?" *Nature*. Vol. 425. 9 October 2003. Available at: http://www.nature.com/cgi-taf/DynaPage.taf?file=/nature/journal/v425/n6958/full/425554a_fs.html

CILIP. 2004. The Chartered Institute of Library and Information Professionals. "The Science and Technology Committee Inquiry into Scientific Publications Evidence Submitted by CILIP: The Chartered Institute of Library and Information Professionals." February 2004. Available through a link at: <http://www.nature.com/nature/focus/accessdebate/evidencelinks.html>

Cockerill, M. 2003. "Feature: Data mining Open Access research." *Open Access Now*. September 8, 2003. Available at: <http://www.biomedcentral.com/openaccess/archive/?page=features&issue=4>

Cox, J. 2004. "Science & Technology Committee: House of Commons Inquiry: Scientific Publications." John Cox Associates, Ltd. International Publishing Consultancy. February 5, 2004. Available at: http://www.biomedcentral.com/openaccess/inquiry/john_cox_associates.pdf

Crawford, B. 2003. "Open-access publishing: where is the value?" *The Lancet* 362(9395), November 8, 2003. Available after registration at: http://www.thelancet.com/journal/vol362/iss9395/full/llan.362.9395.editorial_and_review.27695.1

Crow, R. 2002. "The Case for Institutional Repositories: A SPARC Position Paper." SPARC, Washington, D.C. Available at: <http://www.arl.org/sparc/IR/ir.html>

Crow, R. and Goldstein, H. 2003. "Guide to Business Planning for Launching a New Open Access Journal." Open Society Institute, New York. Available at: <http://www.soros.org/openaccess/oajguides/index.shtml>

Crow, R. and Goldstein, H. 2004. "Guide to Business Planning for Converting a Subscription-Based Journal to Open Access." Open Society Institute, New York. Available at: <http://www.soros.org/openaccess/oajguides/index.shtml>

Crow, R. and Goldstein, H. 2003. "Model Business Plan: A Supplemental Guide for Open Access Journal Developers & Publishers." Open Society Institute, New York. Available at: <http://www.soros.org/openaccess/oajguides/index.shtml>

Dalrymple, D. 2003. "Scientific knowledge as a global public good: contributions to innovation and the economy." In *The Role of Scientific and Technical Data and Information in the Public Domain: Proceedings of a Symposium sponsored by the National Research Council*. National Academy of Press, Washington, D.C. Available at: <http://books.nap.edu/catalog/10785.html>

David, P. A. 2003. "The economic logic of 'open science' and the balance between private property rights and the public domain in scientific data and information: a primer." In *The Role of Scientific and Technical Data and Information in the Public Domain: Proceedings of a Symposium sponsored by the National Research Council*. National Academy of Press, Washington, D.C. Available at: <http://books.nap.edu/catalog/10785.html>

Nature Materials. 2004. "Accelerating access." (Editorial) *Nature Materials*, Vol. 2, March 23, 2004. Available at: <http://www.nature.com/cgi-taf/DynaPage.taf?file=/nmat/journal/v2/n12/full/nmat1032.html>

Davidson, K. 2003. "Bay Area leads revolt against scientific journals. Scientists call for boycott, launch open-access project." *San Francisco Chronicle*. Monday, October 27, 2003. Available at: <http://sfgate.com/cgi-bin/article.cgi?file=/chronicle/archive/2003/10/27/MNGAM2J9L11.DTL>

DC Principles. 2004. "Washington D.C. Principles for Free Access to Science." Available at: www.dcpinciples.org

DeAngelis, T. 2004. "Debating access to scientific data." *Monitor on Psychology* 25(2), February 2004. Available at: <http://www.apa.org/monitor/feb04/debating.html>

Delamothe, T., Godlee, F., and Smith, R. 2003. "Scientific literature's open sesame? Charging authors to publish could provide free access to all." *British Medical Journal*, May 3, 2003. Available at: <http://bmj.bmjournals.com/cgi/content/full/326/7396/945>

Delamothe, T. and Smith, R. 2004. "Open access publishing takes off." *British Medical Journal*, January 3, 2004. Available at: http://bmj.bmjournals.com/cgi/content/full/328/7430/1?maxtoshow=&HITS=10&hits=10&RESULTFORMAT=1&author1=Delamothe%252C+T&author2=Smith%252C+R&title=Open+access+publishing+takes+off&andorexacttitle=and&andorexacttitleabs=and&andorexactfulltext=and&searchid=1080025536792_25492&stored_search=&FIRSTINDEX=0&sortspec=relevance&firstpage=1&fdate=1/1/2004&resourcetype=1,2,3,4,10

Delamothe, T. and Smith, R. 2003. "Paying for bmj.com." *British Medical Journal*, August 2, 2003. Available at: http://bmj.bmjournals.com/cgi/content/full/327/7409/241?maxtoshow=&HITS=10&hits=10&RESULTFORMAT=1&author1=Delamothe&author2=Smith&title=Paying+for+bmj.com&andorexacttitle=or&andorexacttitleabs=and&andorexactfulltext=and&searchid=1080026212992_25579&stored_search=&FIRSTINDEX=0&sortspec=relevance&firstpage=241&fdate=1/1/2003&resourcetype=1,2,3,4,10

Dickson, D. 2003. "The challenges of 'e-science'." December 15, 2003. Editorial. SciDevNet, Open Access Section, December 29, 2003. Available at: <http://www.scidev.net/Editorials/index.cfm?fuseaction=readEditorials&itemid=99&language=1>

Dickson, D. 2004. "The Threat to science as a 'public good'." March 17, 2003. Opinion. SciDevNet, Open Access Section, February 17, 2004. Available at: <http://www.scidev.net/Editorials/index.cfm?fuseaction=readEditorials&itemid=55&language=1>

Dickson, D. 2004. "Thumbs up for electronic publication." February 4, 2002 Opinion. SciDevNet, Open Access section, February 17, 2004. Available at: <http://www.scidev.net/Editorials/index.cfm?fuseaction=readEditorials&itemid=23&language=1>

- Doyle, M. 2002, "How to profit by providing free access." *Learned Publishing* 15(4), October 2002. Available at: <http://zerlina.ingentaselect.com/vl=1160956/cl=52/nw=1/rpsv/cgi-bin/linker?ini=alpsp&reqidx=/cw/alpsp/09531513/v15n4/s13/p315>
- Dryburgh, A. 2004. "Open access – time to stop preaching to the converted!" *Learned Publishing* 17(1), January 2004. Current volume full text available to members at: <http://www.alpsp.org/journal.htm>
- Dryburgh, A. 2003. "Open-access journals – nice idea, shame about the numbers?" *Learned Publishing* 16(1), January 2003. Available at: <http://zerlina.ingentaselect.com/vl=285471/cl=52/nw=1/rpsv/cgi-bin/linker?ini=alpsp&reqidx=/cw/alpsp/09531513/v16n1/s12/p75>
- EPT (Electronic Publishing Trust for Development). 2004. "Submission to the House of Commons Science and Technology Committee's Inquiry into Scientific Publications, January 19th 2004." Available at: <http://dspace.dial.pipex.com/bioline/STC.htm>
- Elsevier. 2004. "Elsevier's comments on evolutions in scientific, technical and medical publishing and reflections on possible implications of Open Access journals for the U.K." February 2004. Available at: http://www.elsevier.com/authoried_news/corporate/images/UKST1Elsevier_position_paper_on_stm_in_UK.pdf
- Elias, P. 2003. "Scientists challenge for-profit journal system." *San Jose Mercury News*. Associated Press Newswire. June 26, 2003.
- European Science Foundation. 2003. "Open access: Restoring scientific communication to its rightful owners." European Science Foundation Policy Briefing 21, April 2003. Available at: www.esf.org
- Fox, S., Fiels, K., Guard, J.R., Davis, M.E., Webster, D.E., Funk, C.J., Sohn, G.B., and Johnson, R.K. 2004. "Memorandum submitted by: American Association of Law Libraries, American Library Association, Association of Academic Health Sciences Libraries, Association of College & Research Libraries, Association of Research Libraries, Medical Library Association, Public Knowledge, and SPARC to the United Kingdom House of Commons Science and Technology Committee Inquiry on Scientific Publications." February 9, 2004. Available at: http://www.arl.org/sparc/resources/OAWG_UK_Submit.pdf
- Frank, M. 2002. "Creating A Better Mousetrap! A Matter of Opinion." *The Physiologist* 45(1), February 2002. Available at: <http://www.the-aps.org/publications/tphys/2002html/feb02/opinion.htm>
- Frank, M. 2001. "No Free Lunch." *The Physiologist* 44(3), June 2001. Available at: <http://www.the-aps.org/publications/tphys/2001html/June01/Opinion.htm>
- Franklin, J. 2002. "Open Access to Scientific and Technical Information: The state of the art." A background report compiled November 2002 for the INIST-CNRS Seminar, Open Access to Scientific and Technical Information held January 23-24, 2003, Paris.
- Fraser, R.S.S. 2004. "Society for General Microbiology Response to the House of Commons Science and Technology Committee Inquiry into Scientific Publications." Available at: http://www.sgm.ac.uk/PA_forms/sgmcon13.pdf

Friend, F.J 2004, "How can there be open access to journal articles?" *Serials* 17(1), March 2004. Full text available to UKSG members and *Serials* subscribers only. Abstract available at: <http://uksg.metapress.com/app/home/contribution.asp?wasp=fc22hkqhvm5xx0tumeqm&referrer=parent&backto=issue,9,20;journal,1,13;linkingpublicationresults,id:107730,1>

:

Fuller, K. .2000. A technical architecture proposal for the Knowledge Exchange Model for scholarly publishing. Unpublished paper. Vancouver: University of British Columbia. Available at: http://pkp.ubc.ca/publications/tech_arch.pdf

Gallagher, R.2003. "Will walls come tumbling down?" *The Scientist*, March 10, 2003. Available at: http://www.the-scientist.com/yr2003/mar/edit_030310.html

Gannon, F.2004. "Ethical profits from publishing." *EMBO reports* 5(1). Available at: <http://www.nature.com/cgi-taf/DynaPage.taf?file=/embor/journal/v5/n1/full/7400057.html&filetype=pdf>

Gavaghan, H. 2003. "Open-access publishing finds official favor." *The Scientist*, June 30, 2003. Available at: <http://www.biomedcentral.com/news/20030630/05/>

Guédon, J. 2001. "In Oldenburg's Long Shadow: Librarians, Research Scientists, Publishers, and the Control of Scientific Publishing." *ARL Proceedings* 138, May 2001. Available at: <http://www.arl.org/arl/proceedings/138/guedon.html>

Guterman, L. 2004. "The Promise and Peril of 'Open Access.'" *The Chronicle of Higher Education*, Section: Research & Publishing, 50(21), January 30, 2004.

Guterman, L, moderator. 2004. "The Promise of 'Open Access' Publishing." Colloquy Live, *The Chronicle of Higher Education*, Thursday, January 29, 2004 at 1PM US Eastern time.

Guterman, L. 2004. "Publishers Fear Government Intervention." *The Chronicle of Higher Education*, Section: Research & Publishing, 50(21), January 30, 2004.

Guterman, L. 2004. "2 Routes to Open Access: Archives and Institutional Subscriptions." *The Chronicle of Higher Education*, Section: Research & Publishing, 50(21), January 30, 2004.

Halsted, C.H. 2003. "Copyright protection and open access." *The American Journal of Clinical Nutrition*. Vol. 78, 2003. Available with *AJCN* subscription at: <http://www.ajcn.org/cgi/content/full/78/5/899>

Hawley, J.B. 2003. "The *JCI*'s commitment to excellence — and free access." *The Journal of Clinical Investigation* 112(7), October 2003. Full text (labeled "Abstract") available at: http://www.jci.org/cgi/content/full/112/7/968?maxtoshow=&HITS=10&hits=10&RESULTFORMAT=&fulltext=free%2Baccess&searchid=1078099467650_2241&stored_search=&FIRSTINDEX=0&journalcode=jci

Heggie, S.J. 2004. "U.K. House of Commons Science and Technology Committee — Inquiry into access to scientific publications World Cancer Research Fund International." Available through a link at: <http://www.nature.com/nature/focus/accessdebate/evidencelinks.html>

Held, M. J. 2003. "Proposed legislation supports an untested publishing model." *Journal of Cell Biology* 162(2). Published online July 3, 2003. Available at <http://www.jcb.org/cgi/content/full/162/2/171>

Horton, R. 2003. "21st-century biomedical journals: failures and futures." *The Lancet* 362(9395) November 8, 2003. Available after registration at:
http://www.thelancet.com/journal/vol362/iss9395/full/lan.362.9395.editorial_and_review.27699.1

Hubbard, B. 2004. "Evidence on Scientific Publications for the Science and Technology Committee of the UK Parliament from the SHERPA Project." SHERPA: Securing a Hybrid Environment for Research Preservation and Access. February, 2004. Available at:
http://www.sherpa.ac.uk/documents/SHERPA_evidence.pdf

Hunter, K. 2004a. "Open Access: yes, no, maybe." *Nature*. Submitted March 19, 2004. Posted 23 March 2004. Available at: <http://www.nature.com/nature/focus/accessdebate/3.html>

Hunter, K. 2004b. Op Ed — Forget About Sleeping." *Against the Grain* 16(1), February 2004. Abstract available after print publication at: <http://www.against-the-grain.com>

IASTM (International Association of Scientific, Technical & Medical Publishers). 2003. "Publishers Reaffirm Mission to Make Research Information Widely Accessible." The Hague, The Netherlands, November 5, 2003.

ICSTI/INIST/INSERM. 2003. Proceedings of the ICSTI/INIST/INSERM Seminar on Open Access to Scientific and Technical Information: State of the Art and Future, held January 23-24, 2003, at the French Ministry of Research, Carre des Sciences, Paris. *Information Services and Use* 23(2-3). ISSN 0167-5265. IOS Press, The Netherlands. (<http://www.iospress.nl>)

International Federation of Library Associations (IFLA). 2004. "IFLA supports Open Access movement." *IFLANet*. The Hague, Netherlands, February 24, 2004. Available at:
<http://www.ifla.org/V/press/oa240204.html>

IUCr (International Union of Crystallography). 2004. "Publishing Crystallography Journals in the Electronic Environment: The Experience of a Specialist Learned-Society Publisher, Evidence to the House of Commons Committee on Science and Technology Inquiry into Scientific Publications." February 2004. Available at: <http://www.iucr.org/iucr-top/iucr/stcttee04.html>

Karim, S.S A. 2003. "Creating equal access to scientific information." March 23, 2003. SciDev.Net. Available at: <http://www.scidev.net/opinions>

King, J. 2004. "Institute of Physics letter to Clerk of the Committee Science and Technology Committee House of Commons." February 11, 2004. Available through link at:
<http://www.nature.com/nature/focus/accessdebate/evidencelinks.html>

Kennedy, D. 2004. "Vantage Point: Subscription journals are here to stay, says *Science* editor-in-chief." *Stanford Report*. February 26, 2004. Available at: <http://news-service.stanford.edu/news/2004/march3/vantagekennedy-225.html>

- Lamb, C. 2004. "Open Access Publishing Models: Opportunity or Threat to Scholarly and Academic Publishers." Shore Communications, Inc. (February 2004). Executive Summary plus other contents available along with purchase information at: <http://www.shore.com/research/current/reports/SCI200401.html>
- Lawrence, S. 2001. "Free online availability substantially increases a paper's impact." *Nature*, May 31, 2001. Available at: <http://www.nature.com/nature/debates/e-access/Articles/lawrence.html>
- Lynch, C. 2003. "Institutional Repositories: Essential infrastructure for scholarship in the digital age." *ARL Bimonthly Report 226* (February 2003). Available at: <http://www.arl.org/newsltr/226/ir.html>
- Mabe, M. 2004. "CAVEAT AUCTIONER: Let the author beware! Some sceptical thoughts on open access." *Serial 17*(1), March 2004. Full text available to UKSG members and *Serials* subscribers only. Abstract available at: <http://uksg.metapress.com/app/home/contribution.asp>
- Manjoo, F. 2003. "The free research movement." *Salon.com Technology & Business*. July 1, 2003. Available at: http://archive.salon.com/tech/feature/2003/07/01/plos/index_np.html
- McConnell, J, and Horton, R. 1999. "Lancet electronic research archive in international health and eprint server." *The Lancet* 354(9172), July 3, 1999. Available after registration at: http://www.thelancet.com/journal/vol354/iss9172/full/lan.354.9172.editorial_and_review.3732.1
- Morris, S. 2003. "Open publishing." *Learned Publishing* 16(3), July 2003. Available at: <http://taddeo.ingentaselect.com/vl=789880/cl=28/nw=1/rpsv/cgi-bin/linker?ini=alpsp&reqidx=cw/alpsp/09531513/v16n3/s3/p171>
- Morris, S. 2003. "Open sesame?" *Learned Publishing* 16(2), April 2003. Available at: <http://zerlina.ingentaselect.com/vl=413179/cl=19/nw=1/rpsv/cgi-bin/linker?ini=alpsp&reqidx=cw/alpsp/09531513/v16n2/s1/p83>
- Noble, I. 2002. "Boost for research paper access." *BBC News Online: Sci/Tech.*, February 14, 2002. Available at: <http://news.bbc.co.uk/1/low/sci/tech/1818652.stm>
- Odlyzko, A. 2004. "The Public Library of Science and the ongoing revolution in scholarly communication." *Nature. Nature Debates*. Available at: <http://www.nature.com/nature/debates/e-access/Articles/odlyzko.html>
- OECD Committee for Scientific and Technological Policy at Ministerial Level. 2004. *Science, Technology and Innovation for the 21st Century*, January 29-30, 2004. "Final Communiqué Annex I Declaration on Access to Research Data from Public Funding." Adopted on January 30, 2004, in Paris. Available at: http://www.oecd.org/document/15/0,2340,en_2649_34487_25998799_1_1_1_1,00.html
- Office of Scholarly Communication. 2004. "Framing the Issue: Open Access." Association of Research Libraries. [Accessed February 15, 2004. Last modification at that time: February 10, 2004.] Available at: http://arl.cni.org/scomm/open_access/framing.html
- Onsrud, H. 2003. "Emerging Models for Maintaining Scientific Data in the Public Domain." *The Role of Scientific and Technical Data and Information in the Public Domain: Proceedings of a Symposium*

sponsored by the National Research Council. National Academy Press, Washington, D.C. Available at: <http://books.nap.edu/catalog/10785.html>

Owens, S.R. 2003. "Revolution or evolution? A shift to an open-access model of publishing would clearly benefit science, but who should pay?" *EMBO reports* 4(8). Available at: <http://emboreports.npgjournals.com/cgi/content/full/4/8/741>

OUP (Oxford University Press). 2004. "Memorandum From OUP to the Science & Technology Committee Inquiry into Scientific Publications." March 8, 2004. Available at: <http://www3.oup.co.uk/jnls/2004/03/08/index.html>

Parks, R. P. 2001. "The Faustian Grip of Academic Publishing," July 2001. Available at: <http://econwpa.wustl.edu:8089/eps/mic/papers/0202/0202005.pdf>

Pentz, E. 2001. "Evolution and revolution: pragmatism versus dogmatism." *Nature*. August 28, 2001. Available at: <http://www.nature.com/nature/debates/e-access/Articles/pentz.html>

Pfeffer, S. 2003. "President's Column The ASCB's Commitment to Free Access Publishing." *The ASCB Newsletter* 26(2), February 2003. Available at: Available at: <http://www.ascb.org/news/vol26no2/ie/February-03.html> [IE Optimized] <http://www.ascb.org/news/vol26no2/ns/February-03.html> [NS Optimized]

The Physiological Society. 2004. "Response to the Science and Technology Committee Inquiry into Scientific Publications." February 11, 2004. Available at: http://www.physoc.org/publications/oa_policy.asp

PloS (Public Library of Science.) "PLoS FAQ." PLoS website. Available at: <http://www.plos.org/faq.html>

PloS. "PloS Open Access." PLoS website. Available at: <http://www.plos.org/about/openaccess.html>

Plutchak, T. S. 2004. "Embracing open access." *Journal of the Medical Library Association* 92(1), January 2004. Available at: <http://www.pubmedcentral.gov/articlerender.fcgi?artid=314095>

Poulter, S. R. 2003. "Legal Pressures on the Public Domain: Licensing Practices." The Role of Scientific and Technical Data and Information I the Public Domain: Proceedings of a Symposium sponsored by the National Research Council. National Academy Press, Washington, D.C. Available at: <http://books.nap.edu/catalog/10785.html>

Prosser, D. C. 2003. "From here to there: a proposed mechanism for transforming journals from closed to open access." *Learned Publishing* 16(3), July 2003. Available at: <http://taddeo.ingentaselect.com/vl=789880/cl=28/nw=1/rpsv/cgi-bin/linker?ini=alpsp&reqidx=cw/alpsp/09531513/v16n3/s1/p163#formats>

Prosser, D.C. 2004. "Science and Technology Committee Inquiry into Scientific Publications Evidence to The Committee from SPARC Europe." February 10, 2004. Available through a link at: <http://www.biomedcentral.com/openaccess/inquiry/>

PloS. 2003. "Public Library of Science acts to increase public access to scientific research." Press release issued June 26, 2003, San Francisco. Available at: http://www.plos.org/news/announce_wings.html

Ramachandran, R. 2004. "The 'free access' debate." *Frontline* 21(2), January 17-30, 2004. Available at: <http://www.flonnet.com>

Reich, M. 2003. "Peace, Love and PloS." *The Physiologist* 46(4). Available at: <http://www.the-aps.org/publications/tphys/2003html/Aug03/plos.htm>

Research USA. 2003. "Questions abound over who should pay to publish research." *Research USA*. July 14, 2003.

Robertson, D. 2001. "Electronic Publishing of Science: Better Late than Never." *The American Journal of Medicine* Vol. 110, April 1, 2001. Subscription required for access to full text. Abstract available at: <http://www.cardiosource.com/library/journals/journal/article/abstract?acronym=AJM&uid=PIIS000293430100657X&kwhighligh=>

RS (The Royal Society). 2004. "Royal Society response to the House of Commons Science and Technology Committee Inquiry into scientific publications." February 2004. Available at: <http://www.royalsoc.ac.uk/files/statfiles/document-252.pdf>

RCP (Royal College of Psychiatrists). 2004. "Science and Technology Committee inquiry into scientific publications. Written evidence from the Royal College of Psychiatrists." Available at: <http://www.rcpsych.ac.uk/college/parliament/responses/scientific2004.htm>

Savenije, B. 2003. "The FIGARO project: a new approach towards academic publishing." *Learned Publishing* 16(3), July 2003. Available at: <http://taddeo.ingentaselect.com/vl=789880/cl=28/nw=1/rpsv/cgi-bin/linker?ini=alpsp&reqidx=cw/alpsp/09531513/v16n3/s5/p183>

SciDevNet.2004. "Feedback and Debate." SciDevNet, Open Access section. February 17, 2004. Available at: http://www.scidev.net/ms/open_access/index.cfm?pageid=174

SciDevNet. 2004. "Free Access Literature." SciDevNet, Open Access section, February 17, 2004. Available at: http://www.scidev.net/ms/open_access/index.cfm?pageid=169

Science and Technology Committee of The United Kingdom Parliament. 2003. "NEW INQUIRY Scientific Publications." No. 3 of Session 2003-04 dated December 10, 2003. Available at: http://www.parliament.uk/parliamentary_committees/science_and_technology_committee/scitech111203a.cfm

The Scientist. 2003. "Sabo bill assessed." *The Scientist*. July 16, 2003. Available at: <http://www.biomedcentral.com/news/20030716/04/>

Scientists and Scientific Societies Working Group. 2003. "Bethesda Statement on Open Access Publishing." Released June 20, 2003. Available at: <http://fos.openlib.org/bethesda.htm>

Shaywitz, D. A., and Ausiello, D. A. 2002. "The 15% solution for majority health concerns. Medical journals should devote more space to issues that affect the developing world." *Nature* 415, February 7, 2002. Available at: <http://www.nature.com/nature/debates/e-access/Articles/health.html>

Singleton, A. 2004. "Professional Engineering Publishing Limited (subsidiary of The Institution of Mechanical Engineers) Response to Science and Technology Committee Inquiry into Scientific Publications." February 2, 2004. Available at: <http://www.pepublishing.com/stcsreport.pdf>

Smart, P. 2003. "E-journals: Developing Country Access Survey." International Network for the Availability of Scientific Publications (INASP). Available at: <http://www.inasp.info/pubs/survey.html>

SPARC. 2004. "SPARC Open Access Newsletter." Issue #70, February 2, 2004. Available at: <http://www.arl.org/sparc/home/index.asp?page=0>

Suber, P. 2004. "Open Access Builds Momentum." *ARL Bimonthly Report*. No.232, February 2004. Available at: <http://www.arl.org/newsltr/232/openaccess.html>

Suber, P. 2002. "Open Access to the Scientific Journal Literature." This essay originally appeared in the inaugural issue of the *Journal of Biology* 1(1) (June 2002). The journal has an HTML edition and a PDF edition online, but requires (free) registration to read them. This openly accessible edition is available at: <http://www.earlham.edu/~peters/writing/jbiol.htm>

Suber, P. 2003. "Removing the Barriers to Research: An Introduction to Open Access for Librarians." This essay was originally published in *College & Research Libraries News*, 64 (February 2003). The print edition was somewhat abridged. The online edition is unabridged. Available at: <http://www.earlham.edu/~peters/writing/acrl.htm>

Suber, P. 2004. "Timeline of the Open Access Movement." (formerly: FOS Timeline), available at <http://www.earlham.edu/~peters/fos/timeline.htm> [Accessed February 12, 2004. Last revision cited: February 9, 2004.]

Tamber, P. S., Godlee, F., and Newmark, P. 2003. "Open access to peer-reviewed research: making it happen." *The Lancet* 362(9395), November 8, 2003. Available after registration at: http://www.thelancet.com/journal/vol362/iss9395/full/lan.362.9395.editorial_and_review.27694.1

Testa, J. and McVeigh, M.E. 2004. "The Impact of Open Access Journals: A Citation Study." Thomson ISI, 2004. Available at: <http://www.isinet.com/media/presentrep/acropdf/impact-oa-journals.pdf>

Thorn, S. and Byford, S. 2004. "Society for Endocrinology Submission to Science and Technology Select Committee Inquiry Into Scientific Publications." Society for Endocrinology. Available at: <http://www.endocrinology.org/SFE/sfesubmission.pdf>

Turner, N. 2004. "Reviews Journal PloS Biology." *British Medical Journal* 328(7430), January 3, 2004. Available at: <http://bmj.bmjournals.com/cgi/content/full/328/7430/56-a>

UCSD Science Library. 2004. "Open Access: A New Model of Scholarly Publishing." *Currents News from the Biomedical Library and Medical Center Library* 5(2), Winter, 2004. University of California, San Diego. Available at: http://scilib.ucsd.edu/bml/currents/currents_v5no2.pdf

UK Serials Group (UKSG). 2003. "STM warming over open access model." *UKSG Serials-eNews*. Wednesday, November 5, 2003. Available at: http://www.biblio-tech.com/UKSG/SI_PD.cfm?AC=5847&PID=10&ZID=969

UK Serials Group (UKSG). 2004. World Summit on the Information Society—Declaration of Principles signed. 176 nations sign agreement. *UKSG Serials-eNews*. Friday, January 2, 2004. Available at: http://www.biblio-tech.com/UKSG/SI_PD.cfm?AC=0463&PID=10&ZID=1035

UK Serials Group (UKSG), 2004. "BioMed's new membership model provokes debate." *UKSG Serials-eNews*. February 23, 2004. Available at: http://www.biblio-tech.com/uksg/SI_PD.cfm?AC=2806&PID=10&ZID=1133

University of Southampton. 2004. "Science and Technology Select Committee Scientific Publications University of Southampton Response." Available through a link at: <http://www.nature.com/nature/focus/accessdebate/evidencelinks.html>

Varmus, H. 2004. "Science and Technology Committee – Inquiry into Scientific Publications Evidence from the Public Library of Science." PLoS, February 9, 2004. Available at: <http://www.plos.org/downloads/HCEvidencefromPLoS.pdf>

Vastag, B. 2003. "Open Access Still Open-Ended." *Science Editor* 26(6), November/December 2003. Available through membership at: <http://www.councilscienceeditors.org/>

Velterop, J. 2003. "Should scholarly societies embrace open access (or is it the kiss of death)?" *Learned Publishing* 16(3), July 2003. Available at: <http://taddeo.ingentaselect.com/vl=789880/cl=28/nw=1/rpsv/cgi-bin/linker?ini=alpsp&reqidx=cw/alpsp/09531513/v16n3/s2/p167>

Vergano, D. 2003. "Upstart science journals take on the powerhouses." *USA Today*. Posted 11/19/2003. Available at: http://www.usatoday.com/news/health/2003-11-19-journals-usat_x.htm

Walker, T. J. 2002. "Two societies show how to profit by providing free access." *Learned Publishing* 15(4), October 2002. Available at: <http://konstanza.ingentaselect.com/vl=8841485/cl=15/nw=1/rpsv/cgi-bin/linker?ini=alpsp&reqidx=cw/alpsp/09531513/v15n4/s6/p279>

Ward, G. 2003. "The Crisis in Scientific Communication: A View from the Trenches." *The ASCB Newsletter* 26(2), February 2003. Available at: <http://www.ascb.org/news/vol26no2/ie/February-03.html> [IE Optimized] <http://www.ascb.org/news/vol26no2/ns/February-03.html> [NS Optimized]

Ware, M. 2004. "Universities' own electronic repositories yet to impact on Open Access." *Nature*. March 19, 2004. Available at: <http://www.nature.com/nature/focus/accessdebate/4.html>

Watkinson, A. 2004. "International Dateline." *Against the Grain* 16(1), February 2004. Abstract available after print publication at: <http://www.against-the-grain.com>

Watts, G. 2004. "Crusaders for a truly free flow of ideas." *The Times Higher Education Supplement*, January 2, 2004. Available at: http://www.thes.co.uk/search/story.aspx?story_id=2008482

Weiss, R. 2003. "A Fight for Free Access to Medical Research Online Plan Challenges Publishers' Dominance." *The Washington Post*, August 5, 2003. Available at: <http://sspnet.org/public/news/details.cfm?id=142>

- Weitzman, J. B., ed. 2004. "Open Access news." *Open Access Now*. BioMed Central. Available at: <http://www.bomedcentral.com/openaccess/oanews/>
- Wellcome Trust. 2003. "Scientific Publishing A position statement by the Wellcome Trust in support of open access publishing." September 30, 2003. Available at: <http://www.wellcome.ac.uk/en/1/awtvispolpub.html>
- Wells, R.D. 2004. "What is free access?" Presentation at the Washington D.C. Principles for Free Access to Science press conference. National Press Club, Washington, D.C. March 16, 2004. Available at: www.dcprinciples.org
- WileyEurope. 2004. "Wiley Submission to the Science and Technology Committee Inquiry into Scientific Publications." John Wiley & Sons, Ltd. Available at: <http://www.wileyurope.com/WileyCDA/Section/id-104308.html>
- Willinsky, J. 2003. "The Nine Flavours of Open Access Scholarly Publishing." *Journal of Postgraduate Medicine*. 49(3). Available at: <http://www.jpgmonline.com/article.asp?issn=0022-3859;year=2003;volume=49;issue=3;spage=263;epage=267;aulast=Willinsky>
- Willinsky, J. 2003. "Scholarly Associations and the Economic Viability of Open Access Publishing." *Journal of Digital Information*. Vol. 4, No. 2, April 9, 2003. Available at: <http://jodi.ecs.soton.ac.uk/Articles/v04/i02/Willinsky/>
- Willinsky, J. [No date.] "What is the Open Journal System?" Public Knowledge Project, University of British Columbia. Available at: <http://pkp.ubc.ca/ojs/>
- Wittenborg, K. 2004. "High hopes for new models?" Presentation at the Washington D.C. Principles for Free Access to Science press conference. National Press Club, Washington, D.C. March 16, 2004. Available at: www.dcprinciples.org
- World Summit on the Information Society (WSIS). 2004. "Inquiry on Scientific Publications Written Evidence submitted to the Science and Technology Committee of the United Kingdom Parliament." Civil Society Working Group Scientific Information (<http://www.wsis-si.org>) February 10, 2004. Available at: <http://www.wsis-si.org/UK/uk-evidences-V2.pdf>
- Yee, C. 2004. "Open-access journals debated." *The Chronicle online*, February 4, 2004. Available at: <http://www.chronicle.duke.edu/vnews/display.v/ART/2004/02/04/4020e8b9af79a>
- Zandonella, C.2003. "Economics of open access." *The Scientist*, August 22, 2003. Available at: <http://www.biomedcentral.com/news/20030822/02>
- Zandonella, C. "Open access law introduced." *The Scientist*, June 27, 2003. Available at: <http://www.biomedcentral.com/news/20030627/04>

Resources

Directory of Open Access Journals. Lund University Libraries. Available at: <http://www.doaj.org/>

International Network for the Availability of Scientific Publications. *INASP Newsletter*. Published three times year. Register for email alerts of publication at: <http://www.inasp.info/newslet/>

Suber, P., ed. *OPEN ACCESS NEWS News from the open access movement*. Available at: <http://www.earlham.edu/~peter/fos/fosblog.html>

SciDevNet Science and Development Network. Available after registration at: <http://www.scidev.net>

Suber, P., ed. Ongoing. *SPARC Open Access Newsletter*. Available at: <http://www.earlham.edu/~peters/fos/newsletter>.

Weitzman, J.B., ed. *Open Access Now*. BioMed Central. Available at: <http://www.biomedcentral.com/openaccess/>

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