

## Information Policies and Open Access: Internet Publishing Makes Headlines in 2004

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The interests of the research community, the taxpayer and the publishing industry (whether commercial or not for profit) are closely intertwined. The continuation of widely disseminated, accessible top quality peer-review research, produced efficiently and at competitive prices, is in everyone's interests.

—House of Commons Science and Technology Committee<sup>1</sup>

Open content and open access emerged in 2004 as serious and highly contentious information policy issues. Government agencies in several countries and international organizations decreed support for open access. Eventually, some agencies scaled back their support for open access and open content under the pressure of intense lobbying. Scholars responded with a variety of organizational tactics, including a letter from Nobel laureates to the U.S. Congress on the matter. Because data form the basis of many papers in journals and magazines, an incredible tug-of-war is going on over how this information will be made available.

The year opened with a pivotal meeting in Paris of the Organization for Economic Cooperation and Development (OECD) on scientific and technological policies. At the conclusion of the session in late January 2004 an impressive array of signatories of 34 countries, including Britain and the United States, agreed to a "Declaration on access to research data from public funding." This declaration recognized that "open source will maximise the value derived from public investments in data collection." All parties agreed to balance "the interests of open access . . . to increase the quality and efficiency of research and innovation with the need for restriction of access . . . to protect social, scientific and economic interests."<sup>2</sup>

Open access was certainly on the minds of the ministers in Paris. Maria van der Hoeven, Dutch minister of education, culture, and science, explained her support of open access in this way:

One of our researchers, he is a logician, has characterised information as the only resource that will grow by its use. Information and data resources will not be depleted by use . . . You can have your cake and eat it as well, again and again. The same data can be used over and again by many people at many different times and places and this will only increase their value. It is obvious that Open Access will be a necessary condition to realise the potential of research data as the *floating capital of global science*<sup>3</sup> [emphasis original].

These proceedings actually were in character for the international information policymaking community. There was, in a sense, considerable momentum to support open access at a policy level going into 2004. In December 2003 the

World Summit on the Information Society released a “Declaration of Principles” and “Plan of Action.” In the declaration it was clearly stated that “The ability for all to access and contribute information, ideas and knowledge is essential in an inclusive Information Society.”<sup>4</sup> In the plan of action, there were encouraging words for advocates of open access. Governments and other “stakeholders” were asked to “promote electronic publishing, differential pricing and open access initiatives to make scientific information affordable and accessible.”<sup>5</sup>

We might trace the lineage of these weighty remarks to supportive acts by other parties, such as the collective support of German research organizations in October 2003. Their resulting document, the “Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities,” clearly supports open access and the use of the Internet “as a fundamental instrument for a global scientific base and human reflection.”<sup>6</sup> There are nearly 60 signatories to the Berlin Declaration.<sup>7</sup>

These policy moves were further blessed with data presented in February 2004 at Stevan Harnad’s EPrints.org-supported conference at Britain’s Southampton University. As might be expected, the one-day event brought together Harnadian-minded scholars.<sup>8</sup> One of the few Americans presenting at the conference, Michael J. Kurtz of the Harvard-Smithsonian Center for Astrophysics, provided some preliminary information on the use of astronomical data. He found that restrictive access dramatically affected the “reading behavior of working researchers.”<sup>9</sup>

Restrictive access certainly influences the ways in which instructors use information found in journals in their classes. In a study reported in the pages of *BMC Medical Education*, Michele Langlois and her team at the University of Manchester reported enormous difficulties in accessing online content for Web-based classes. They warned that problems in securing permission to use some literature as readings would lead to biases in medical education.<sup>10</sup>

## Cost Considerations

Clearly, the true meaning of “access” was one issue on the table in 2004. The cost of open access was another contentious topic. In February 2004 the editors of the *Proceedings of the National Academy of Sciences (PNAS)* conducted an informal survey to test financial models. A little over 600 authors of papers in *PNAS* were asked to participate in the survey; 210 responded. Of those 210, about half (49.5 percent) supported open access upon publication. But about 80 percent of those supporting open access would only pay a fee of \$500, or about a quarter of the publication costs in the absence of subscription income. The National Academy of Sciences already has made *PNAS* available without cost globally six months after publication and immediately upon publication for more than 130 developing countries. The editors of *PNAS* commented obliquely on the survey by remarking that they “will continue to weigh the comments and concerns” of their readers and contributors “as well as the effect on our finances.”<sup>11</sup>

These comments were echoed in the remarks of Catherine DeAngelis and Robert Musacchio in the pages of the *Journal of the American Medical Association (JAMA)*, where they noted that “the true cost of scientific publishing has not yet been determined.”<sup>12</sup> *JAMA*, like *PNAS*, is treating open access experimental-

ly, providing free access to major articles and editorials six months after publication and free access to selected countries in the developing world.

*PLoS Biology* noted in an April 2004 editorial the significance of a financial model based on publication fees, and the findings of the National Academy of Sciences survey. *PloS Biology*'s editorial noted that "nearly 90 percent of those who submit manuscripts do not request a fee waiver, and the few who do still offer to pay some portion of the fee."<sup>13</sup> The fee itself has no influence on the peer-review process as a firewall prevents editors and reviewers from knowing who has paid a fee and who has not.

All of these questions about open access truly revolved around the larger issue of sustainability. Jan Velterop of BioMed Central pointed out that these questions were truly red herrings. Velterop wrote:

The issue is not "Open Access or not" anymore. That's a station we've already passed. . . . Any business that can deliver what customers need or want, at a price that they are willing to pay, is sustainable. The crux of the matter lies in the phrase "the price customers are willing to pay" for the "value" or "added-value" of a product or service. The Open Access model is sustainable as long as its customers are prepared to pay for the service they receive. The traditional model is the one that is unsustainable, precisely because its customers are no longer prepared to pay the asking price.<sup>14</sup>

Open access gained notable support in the summer of 2004 from two significant sources, the British House of Commons Science and Technology Committee and the U.S. National Institutes of Health (NIH). Given the prelude of open access support, at a variety of levels, in the first six months of 2004, these recommendations for open access by important government bodies might not be surprising.

After months of testimony, the Science and Technology Committee saw open access as a "viable" alternative that needed both support and continued experimentation.<sup>15</sup> The committee recommended that researchers funded by the British government make their works available online, and that "author-pays" models of open access needed further investigation. (Under an author-pays system, a publication charges authors a fee to have their work published online in lieu of charging readers to access articles.)<sup>16</sup>

These recommendations flew in the face of remarks made by some publishers before the committee. Elsevier warned that "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."<sup>17</sup>

Unfortunately for supporters of Open Access and experimentation in Internet publishing, the British government elected not to take action on the committee report, because the government was "not aware that there are major problems in accessing scientific information."<sup>18</sup> For members of the committee, this response was disappointing. The committee remarked that "The debate about scientific publications is still evolving, and the Committee will be pursuing the issues in a variety of ways. We are disappointed that the Government has missed the opportunity to take more decisive action in response to our Report."<sup>19</sup> An opportunity for broader experimentation in Britain with Open Access and Internet publishing

indeed was lost. But given the global nature of the Internet and Open Access, opportunities may appear elsewhere.

## NIH Move Causes Stir

A parallel experience occurred across the Atlantic, with the release in September of an NIH plan that would require NIH-funded researchers to post their papers at NIH's PubMed Central within six months of publication.<sup>20</sup> NIH received both considerable praise for this plan and serious criticism from publishers. For example, the Association of Learned and Professional Society Publishers remarked:

... to embark on a course of action which could lead either to journals being destroyed, or to precipitate adoption of an untried alternative business model which might be no better at ensuring their survival, is—we believe—not helpful to the scholarly research endeavour. We believe that it would be far preferable to recommend, rather than mandating, self-archiving; to allow publishers to determine the delay after publication; or, indeed, both.<sup>21</sup>

Hence, it is not surprising that NIH back-pedaled, with a final report in February 2005 that recommended (not required) posting papers at PubMed within up to 12 months rather than 6. Many on Open Access side saw this “retreat” as “unjustified and regrettable.”<sup>22</sup>

Nevertheless, the issues are far from dead. Twenty-five Nobel Prize laureates sent a letter to the U.S. Congress in support of NIH's initial plan, remarking that “open access truly expands shared knowledge across scientific fields—it is the best path for accelerating multi-disciplinary breakthroughs in research.”<sup>23</sup> In addition, major independent funding bodies, among them Britain's Wellcome Trust, are strongly supporting open access and Internet publishing.<sup>24</sup>

“Open” motives are spreading to other disciplines, with biologists' genetic information available via a “protected technology commons.”<sup>25</sup> Open software, such as Bram Cohen's BitTorrent, is already causing new headaches for media giants.<sup>26</sup> The “open” genie<sup>27</sup> is certainly out of the bottle and shows incredible reluctance to return.

The traditional publishers (if one can still use that nomenclature), meaning those publishers that have a long history in paper and electronic formats, and who sell their content at prices designed to make for good business, were both visible in public forums and hard at work on reshaped business plans and product development strategies. The past decade has seen most, if not all, journal publishers develop robust business environments for creating and managing formerly paper journals for electronic access. More recently, publishers have retrofitted these systems to meet standards that have emerged, e.g., OpenURL. However, the delivery of this content had remained pretty much unchanged—creating a functional Web site that allows searching for specific articles, browsing issues, or mining the site for articles by a particular author or on a particular topic. While features had been added—such as “hot” or linked references and citations in articles or stable bookmarks (permanent URLs) to provide for standard citations—these journal Web sites were fundamentally the same as when they premiered in the mid-1990s. With the processes for creating, delivering, and retrospectively

converting content in place and Web sites functioning, journal publishers began to deploy new businesses in 2004.

It is important to understand what is driving the development of these new businesses. Like so many other industries, the journal-publishing sector is finding out what its new role will be in a networked online environment. Challenged by user arguments that lower costs for production should lead to lower journal costs, pressed by movements such as Taxpayer Alliance that encourage authors to place articles in open repositories, and aware of emerging competition such as Google Scholar, these publishers are now trying to responding to the question "What (new) value do you add?" It has become clear that the value that publishers provided when communication was difficult and paper documentation was essential for scholarship is being questioned. Despite studies that show how much inaccurate information is available on the Web and how difficult it can be to find information on the Web, many users are not buying the arguments of the value of the traditional publishing chain, and libraries can no longer afford to buy such quality unquestioningly. In this environment, the publishers are developing new services and products that respond to a changed marketplace.

These products and services are being built for the most part upon the infrastructure created to perform the functions of delivering the content. There's an interesting conundrum at work. One original argument for maintaining paper-based subscription costs was to allow the publishers the capital to develop the infrastructure to provide high-quality electronic delivery. That infrastructure is now being sold as a new product.

Another observation is that these services are taking the publishers into roles that were formerly filled by journal aggregators and abstract and indexing services. This has resulted in some surprising alliances among the product developers. Among the leading new products was Elsevier's Scopus, which leverages Elsevier's search infrastructure with citations of Elsevier and other STM (scientific, technical, and medical) publishers, creating what <http://www.scopus.com> modestly calls "The world's largest abstract database of scientific literature . . ." enhanced with information about citations and cited-by's. Meanwhile Blackwell's announced its Online Open, a place where "authors who wish to publish their research in a Blackwell journal [are given] the opportunity to ensure that their article is immediately made freely available for all to access online." The cost of "freely available" during the trial is \$2,500. Thomson ISI significantly expanded its ability to link-out to other publishers including 200 open access journals. These are only three of the various approaches that the journal-publishing industry is pursuing in the face of open access, Google, and government reports and policies.

With the next World Summit on the Information Society scheduled for November 2005 in Tunis, Internet publishing, and especially open access, will be avidly debated and discussed. In the meantime, experimentation will continue, while analysis of operational Internet journals will become a new focal point for research; 2005 will be open to many surprises.

## Notes

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