

Updating realistic access

Universal public access mandates will reveal the value of biomedical research journals

Mike Rossner

Executive Director, The Rockefeller University Press

Nearly six years ago Ira Mellman, then Editor-in-Chief of the *JCB*, published an editorial entitled “Providing realistic access” (1). It described the Journal’s efforts to reconcile its subscription-based business model with the goal of providing public access to scholarly journal content. Since then, developments in the public-access movement are bringing us closer to the ideal of universal public access. But will there still be a place for selective journals like the *JCB* when we achieve that objective?

Selective vs. archival

Mellman’s article considered various publishing business models in the context of editorial selectivity. It made the distinction between selective journals and archival journals but did not define the terms. Traditionally, journals have been defined within the parameters of stringent peer review, in which reviewers address two questions: (i) do the data support the conclusions? and (ii) do the conclusions represent a conceptual advance for the field of study? For publication in a selective journal like the *JCB*, the answer to both questions must be yes. For publication in an archival journal, the answer to only the first question must be yes.

Mellman asserted that “in an ideal world, all archival journals would switch to open access, and researchers would send more of their best work only to the selective journals [which will continue to have subscription-based business models].” He was using the term “open access” to refer to the author-pays business



“So much is written, so little advanced.”

model, in which the author pays all of the publication costs, and the published product is available to the public for free immediately upon publication. The first major publisher in the biomedical sciences to develop such a business model, BioMed Central, codified its “archival” nature. Upon its inception 10 years ago, a BioMed Central official noted that “Reviewers will assess scientific accuracy, not interest.” (2)

BioMed Central is a commercial concern, created by a publisher who foresaw that the success of this form of business model is dependent on volume. To earn sufficient revenue to cover operational costs, it is necessary to publish many papers. This implies that a large percentage of submissions will be accepted.

In 2003, the journal *PLoS Biology* was founded by an idealistic group of scientists who wanted to create a selective open-access journal using the author-pays business model. On the occasion of the journal’s launch, the founders wrote that they were entering the publishing business “to demonstrate that high-quality journals can flourish without charging for access.” (3)

Subsidizing selectivity

The cost of online publishing in the *JCB* is currently ~\$10,000 per published

Correspondence to Mike Rossner: rossner@rockefeller.edu

article. The majority of this expenditure is on the personnel required for selective peer review, high quality production, and maintenance of data integrity. Given the fact that no funding agency has indicated it will pay this high cost, Mellman commented that “It is difficult to see how the most prominent open access selective journal (*PLoS Biology*) will be financially viable in the long run without support from grants or other ventures.” This remains true today, given their relatively low author charge of \$2,900 per article. Indeed, even with grant support, *PLoS* did not cover its operational costs (4) until they launched such an “other venture” in the form of *PLoS ONE*, an archival journal. Their website states, “*PLoS ONE* will rigorously peer-review your submissions and publish all papers that are judged to be technically sound. Judgments about the importance of any particular paper are then made after publication by the readership (who are the most qualified to determine what is of interest to them).” (5) In the month of March 2010, *PLoS ONE* published 475 articles at \$1,350 per article. The *PLoS* business model is thus to subsidize open access to a group of selective journals with the revenue generated by the high volume of publication in its archival journal.

Is there a way to publish selective journals and provide public access to their content without having to resort to this model? There has been much talk about a revolution in publishing business models, but we have been able to provide public access to the content in our selective journals within the parameters of a subscription-based business model.

Public access after a short delay

The *JCB* was among the first subscription-based journals to release its content to the public six months after publication. We did this in January 2001, and our subscription revenues have grown every year through 2009. We did this because we understand that much of our content is generated through publicly funded research, that many of the scholars who carry out peer review are publicly funded, and that the

public supports (either directly or indirectly) many of the institutions that buy our subscriptions. We thus feel an obligation to give something back to that public.

Mellman noted that delayed public access “would also be perfectly viable for the for-profit, top-tier journals that currently have little or no free content.” However, it has become clear that those companies who enjoy large commercial gains from the subscription model will not voluntarily release most of their content to the public,

even after a short delay. That’s why we need mandates.

Mandate, mandate, mandate

The most important development of the past six years in the public access movement has been the mandates from funding agencies and research institutions. The most prominent of these is the National Institutes of Health (NIH) mandate, which requires that the published results of NIH-funded research be made accessible to the public within a year of publication. The Federal Research

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(<http://www.whitehouse.gov/sites/default/files/microsites/ostp/papf-post-8.pdf>)

We at the Rockefeller University Press (RUP) strongly believe in the release of scholarly journal content to the public after a short delay under subscription access control. As a biomedical research publisher, we understand that much of our content is generated through publicly funded research, that the peer review process is performed in large part by publicly funded individuals, and that a significant portion of subscription revenue is obtained from publicly funded institutions. Like RUP, many scientific publishers feel an obligation to give something back to the public, and thus they release their content after a short period under subscription control. But other publishers are reluctant to do so, and the government has been forced to take action. We support the government’s efforts to make the results of publicly funded research available to the public after a short delay.

We have released the content of our three biomedical research journals to the public six months after publication since January, 2001, and our subscription revenues have grown every year through 2009. We release all of our content, regardless of funding source, and we think all funding agencies should mandate this form of public access. For biomedical research journal articles, we think six months is a reasonable embargo before release to the public.

We strongly believe that only the final, published version of an article should be released to the public. Many publishers, however, allow authors to post only the authors’ accepted version of a manuscript in a public repository. The notion that this restriction will provide an incentive to subscribe is misguided. For both versions, the most important function of a scholarly publisher—peer review—has already been completed. Although there is additional value added through copy editing, layout, and proof reading, we believe that these are less important to readers than the validation and prioritization afforded by peer review. Thus, readers are likely to read the first version of a peer-reviewed article that is available to them, without regard to copy editing, layout, and proof reading. They are unlikely to be motivated to subscribe simply for the benefit of these additional features.

We view PubMed Central as a good model for the dissemination of research articles by a Federal agency. The administrators of PubMed Central work closely with publishers to facilitate submission and display of articles. They honor individual publishers embargoes up to the mandated maximum 12-month delay, they are willing to host and display the final published version of journal content if it is provided by a publisher, and they keep the content updated with corrections and retractions. The PubMed Central model could be used for the development of a central repository for all federally funded research.

Public Access Act, which has been introduced in the U.S. Congress, seeks to extend this mandate to several other Federal funding agencies.

Globally, numerous other governmental and private funding agencies have instituted similar policies or stricter ones, which require release to the public within six months. Research institutions have also begun mandating such public access through their own repositories. The institutions, however, must also respect the need for publishers to recoup their costs by providing a short embargo before releasing content to the public.

The issues of copyright to and versioning of published material, as they relate to public access mandates, have been considered elsewhere (see [6] and text box).

We at the Rockefeller University Press call for all biomedical research funders and institutions to mandate public release of content six months after publication. We and other non-commercial publishers have shown that this is a sufficient delay for selective journals to continue selling subscriptions. Researchers need to push for these mandates from their own funding agencies and institutions.

A new definition of archival

When all biomedical research publications are available to the public, an economic layer will be added to the definition of selective vs. archival. Selective journals publish content that can be sold in the first six months after publication. Archival journals publish content that few people are willing to buy during the first six months after publication, and they have to recoup their costs through an author-pays model or some other non-subscription model.

Currently, librarians pay for archival content that is kept perpetually under subscription access control. If all biomedical research articles were free to the public after six months, and librarians had the ability to choose individual journals at reasonable prices (see 7), they would subscribe only to those journals with quality content to which their users demanded access during the first six months after publication. But is there

enough value left in selectivity to provide this demand?

Valuable content

Has the revolution in searchability negated the utility of selective journals as filters of information? That is, is there still a value to the stringent peer review process used by selective journals, or should all publications appear in archival journals? Mellman commented that “Selective journals prioritize and streamline information for busy readers, and provide a hierarchy—admittedly imperfect—for appointments, promotions, and grant review.” There is a value to knowing that the editors and reviewers of the *JCB* thought that a particular piece of work was a significant advance in the field. People are still willing to pay for that value. In the words of one observer of the scholarly publishing industry, “Charging for information is a clear-cut way to know how valuable it is.” (8) For biomedical research journals, I would modify that statement to say that “Charging for information in only the first six months after publication is a clear-cut way to know how valuable it is.”

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