

## **The Reality of Open-Access Journal Articles**

By ANDY GASS and HELEN DOYLE

Although reasonable people can undoubtedly disagree about aspects of open-access publishing -- generally speaking, making journal articles available online at no charge -- one point is beyond dispute: The concept is no longer merely a theoretical possibility. It is time to move beyond rehashing tired arguments about whether open access poses a threat to publishers, professional societies, or research budgets. We should begin to discuss how best to use what open access gives us: the unfettered availability of scholarly literature.

The strongest evidence that open access to peer-reviewed articles is here to stay, at least in the life sciences, comes from two developments: the increasing number of agencies and foundations that have begun to require or encourage free online access to publications based on research they have helped finance; and the growing number of journals that allow authors to make their papers freely available. This month the National Institutes of Health announced that it will ask scientists whose research it supports to deposit articles about that research in PubMed Central, the free-to-use archive run by the NIH. Some prominent journals have begun offering authors the option to pay, through their grants, an open-access surcharge to make their papers freely available immediately upon publication. And the Public Library of Science (our employer), a nonprofit organization of scientists and physicians, has established new journals that offer free online access to their full contents, and whose articles have begun to attract the attention of the international media.

Although questions remain, quite a few experts are clearly betting that open access will not precipitate the collapse of scholarly publishing. In fact, the case could be made that a consensus in favor of open access is emerging among scientific and policy-making institutions -- as well as individual scientists -- around the world. Explicit endorsements have come in the past year and a half from the Wellcome Trust, one of the world's largest nonprofit supporters of biomedical research; several United Nations initiatives; and dozens of prominent research organizations. Given such support, it makes sense to focus now on the interesting possibilities we face.

- What will become of the market for secondary filters of primary research articles, services like BioMed Central's Faculty of 1000, which highlight important papers published in a wide swath of journals? Will fee-for-access ventures that collect open-access articles become a new cash cow for publishers? At present, faculty members offer their recommendations to the filtering services free, and publishers

- sell their aggregated opinions to institutions -- will established professors go on contributing their free labor to such entrepreneurial enterprises?
- How will the role of the research library change, as open-access scholarly communication becomes more widely practiced? To what extent will librarians be freed from the burdens of subscription management?

Many university libraries now encourage open access by subsidizing a portion of the publication charges in open-access venues for authors affiliated with the university, through channels like our employer's institutional membership program. Will those subsidies continue? If so, will they continue to be paid from libraries' budgets, or will they come from research budgets -- a source that would be more consistent with the view of open-access proponents that costs of publication should be part of the costs of conducting research? Or will external granting agencies, many of which already pay scientists' page charges and color-illustration fees, assume the full costs of their investigators' open-access publications?

Will libraries continue to serve as intermediaries through which researchers find open-access information, as well as that available only through subscription, and how?

Those questions relate not just to academic libraries, but to the mission of colleges and universities. The time has come for a comprehensive review of how best to pay for the dissemination of professors' work.

- How will reduced legal barriers to reusing articles -- a stipulation of most formal definitions of open access -- affect teaching, research, and other scholarly activities? There are, of course, good precedents for having few or no legal restrictions on the reuse of scholarly work: Every article published by an employee of the NIH is in the public domain. Some more-restrictive open-access licenses now available, like the Creative Commons attribution license in use for articles from our employer and from BioMed Central, permit users to reproduce scholarly work in any medium, for any purpose, as long as the author receives proper credit.

What kinds of educational tools will such licenses make possible? For example, will we see a proliferation of online articles enhanced with explanatory links and informational sidebars, which make scientific discoveries more comprehensible to a wide audience? Will such resources be produced by commercial enterprises? By nonprofit organizations? Or by networks of volunteers, as is the case with open-source computer software?

- Will open-access articles enable more researchers from less-developed countries to work on the frontiers of science? Given that all credible open-access journals waive publication fees for authors who can't afford to pay them, increased availability -- and therefore knowledge -- of the literature might well allow scientists in the developing world to increase their output of cutting-edge work. Would that change, in turn, help resolve the "10/90 gap" -- the unfortunate reality

- that less than 10 percent of the global expenditure on medical research goes to study the predominant health needs of 90 percent of the world's population?
- Most important, what kinds of discoveries might result from searchable, open archives of peer-reviewed, full-text scientific literature? The aggregation of gene sequences in a single, freely accessible information space (GenBank) has spawned entire fields of research; will open access to journal articles have a similar effect on areas of work that could benefit from "mining" full texts and figures? Clearly, comprehensive collections of open-access literature would make it much easier to systematically review published medical studies.

Will open-access literature lead to frequent discoveries of correlations between phenomena previously thought to be unrelated? Will it spark more open access to data sets and databases of laboriously compiled and annotated information? The potential for open access to lead to new discoveries is its single most compelling asset, though one that is frequently overlooked.

Discussing open access seems to be a growth industry in academe. Oddly, though, many of the recent debates and arguments about it seem to have taken a notably regressive turn. In light of the widespread enthusiasm for using the Internet to remove barriers to research articles, those backward-facing cavils are shortsighted and distract attention from more important issues.

Open access is no longer just an idea to be deconstructed, analyzed, and reanalyzed. We now have information about how publishers are practicing it and how scholars and researchers are reacting to it. The really intriguing questions about the topic today deal with the reality of open access and its exciting promise.

*Andy Gass is a policy analyst, and Helen Doyle is director of development and strategic alliances, at the Public Library of Science.*

---

<http://chronicle.com>

Section: The Chronicle Review

Volume 51, Issue 24, Page B13