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Author Disincentives and Open Access

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All parties in the scholarly-information marketplace agree that any Open Access (OA) system will have to account for the costs of disseminating scholarly information and of editing, publishing and distributing it. There has been less discussion of the fact that for an OA forum to succeed, it will have to be accepted and supported by authors. Author charges, a relative lack of prestige, and the required abdication of copyright are three characteristics of many currently emerging OA models that may pose significant barriers to author acceptance. These will have to be addressed if OA providers wish to be competitive with non-OA providers.
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Like peace in the Middle East, Open Access (OA) to scholarly information is a highly desirable and laudable goal, and its attainment will be fraught with cost and complexity. One problem with the current discourse surrounding OA is that, as with most highly desirable and laudable goals, those who point out the potential costs and inevitable complexities will sometimes be mistaken for opponents of the goal itself. This is unfortunate. To use a different metaphor, when Orville and Wilbur Wright proposed building a flying machine, there were surely some who shared the brothers' desire to see the production of such a machine and yet had legitimate concerns and reservations about the Wrights' specific plans or even about the general feasibility of the project. I wish to make it clear that this is the spirit in which I address the issue of OA in this forum – not as an opponent, but as someone who applauds the goals of OA while remaining concerned about the costs and long-term consequences of the project.

Surely a world that both produces high-quality scholarly information and makes it freely available to all will be a better place. The question is whether we will end up paying for universal access with decreased content and/or decreased quality. My hope is that the OA project will follow the same trajectory as that of the Wright brothers – that the experiments will be productive, that we will identify and work out the problems and that the project will ultimately succeed. My fear, however, is that it could turn out to be like peace in the Middle East – greatly to be desired, but stubbornly resistant to our most strenuous and goodhearted efforts.

As with all projects of significant scope, it is impossible to anticipate all the potential costs of OA. However, proponents and critics of OA have been engaged for some time in a vigorous public discussion[1] of some of the most obvious costs and potential challenges. All agree that the design, performance, and reporting of scientific research cost time, effort and money, as do the editorial preparation, publication, distribution and preservation of resulting articles. Since many of the costs of scientific research are underwritten by public funds, there is at least a plausible moral argument to be made for the idea that the results of such research should be made freely available to the public that funded it.[2] *But formulating a sound moral argument and constructing a feasible economic model are not the same thing; what we all agree is good and right may not be the same as what we are able to make happen in the real world*. For OA to work, there are potentially significant roadblocks that will have to be overcome.

Most OA advocates recognize this, and some organizations have done an admirable job of designing structures to meet some of the challenges and of facilitating the online publication and ongoing maintenance of scientific articles on an OA basis. The Public Library of Science (PLoS), PubMed Central and BioMed Central offer model solutions to some of the most significant archiving and distribution challenges that stand in the way of OA, and there is good reason to believe that they will continue to provide a solid foundation for the foreseeable future.

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However, the costs of publication, distribution and archival maintenance of scholarly information do not constitute the sole roadblocks to the OA project. At the risk of belaboring the aviation metaphor: it is one thing to build an airplane that works, quite another to design and organize a system of airlines, and still another to convince people to buy tickets. In the OA world, PubMed Central, BioMed Central and PLoS have built airplanes that fly. What remains to be built is a working airline system, one that is not only capable of getting passengers where they want to go but also of attracting passengers who are willing to pay for the privilege of using the system.

In this context, it is important to understand who the "passengers" are. It would be tempting to assume that they are the readers of OA content. But while readers are part of the passenger population, a much more important component of that group is authors. Convincing people to read OA articles will probably not be a significant problem. If high-quality content is freely available to the world, it will tend to get used, and if it is not heavily used, that will be little skin off the OA provider's nose. While readership levels matter greatly to the authors whose professional standing rests on citation and impact, it will not matter much to the hosts of online content, since readers will have been removed from the economic equation (unless low overall readership of their hosting service tends to drive authors away). Once a publishing structure is in place, the primary problem for OA providers will not be attracting readers, but attracting *authors*, especially in the early going when authors have other publishing alternatives.

I should point out here that most OA advocates recognize that when an author is writing for pay (as opposed to writing because her salaried job requires it), OA is not a viable option. Most OA advocates stop short of calling for all scientific information to be offered on an OA basis. Their primary concern is with scholarly information which has been produced in academia or otherwise underwritten by public funds. But even for scholarly authors – those researchers and scientists who do not expect direct payment for their writing, who publish because their jobs require it, and who do so in order to make altruistic contributions to their fields of interest and/or to increase their prestige and job security – currently emerging OA models offer potentially significant disincentives. My purpose in this essay is to examine and evaluate those disincentives, with a view to helping OA providers recognize and perhaps avoid or at least temper them.

Most emerging OA models offer one or more of the following disincentives to authors: author charges (which most non-OA publishers do not impose); a lack of professional prestige; abdication of copyright. Let us examine each of these disincentives in more detail.

The Author-Pay System

Of the three disincentives mentioned above, the imposition of author charges is the most obvious, particularly in a mixed publishing economy where OA and non-OA publishing opportunities co-exist. Given a choice between publishing in an OA journal at a cost of, say, $1500 and publishing in an equally prestigious non-OA journal at no cost to herself, *ceteris paribus*, an author would have to be either powerfully motivated by the moral arguments of OA or externally compelled to choose the OA option.

One possible objection to this observation is that the very term "author-pay" is problematic, since authors who pay such charges would not be taking the funds out of their personal bank accounts; instead they would write them into grant proposals or request financial support from their institutions. This is a valid point in theory, but in practice it will likely turn out to be a distinction without a difference. Requiring authors to use personal funds would constitute a tremendous (even disastrous) disincentive to OA publication, but the requirement that authors take the responsibility for securing the necessary funding will also have a significant deterrent effect, especially in a marketplace that offers free publishing alternatives. In the current non-OA marketplace there are science journals that thrive on an author-pay model, but these are primarily journals that confer high prestige on authors whose work they publish. OA journals (at least some of them) will likely attain similar prestige levels in the future, but to build up their reputation and influence in the meantime they will need an economic model that actually attracts authors instead of one that tends to drive them to non-OA journals. The practical question is not whose coffers will ultimately supply the funds, but whether an author-pay system will make it more or less likely that a given author will choose to publish in an OA forum.

One other potentially serious problem for the author-pay model of OA is the inevitability of competition and its complications. It would be nice to think that in a non-profit environment where the content itself is all available to the public at no charge and no advertisers are involved, competition between journals will be a non-issue, but of course such is not the case. OA publishers will be in competition for authors and will quickly realize that one way to gain a competitive advantage in the author market is to lower their author charges relative to those of other publishers. Authors will have to ask themselves whether it is worth $1500 to publish in PLoS when they could do so for, say, $1200 (or $500 or $0) in some other forum. In scientific fields where demand for articles is high and the number of authors is low, OA publishers may find that they cannot charge author fees high enough to recover the costs of publishing, requiring a choice between seeking funding elsewhere and ceasing publication. If and when OA publishing becomes a universal requirement for scientific authors, OA providers will no longer have to worry about losing authors to non-OA venues. They will still, however, have to compete with each other for authors, and those operating under an author-pay model will be at a competitive disadvantage compared to those that have other funding sources.

One possible solution to this problem would be regulation, or the standardization of author fees across

all OA publishers, such that publishing in one forum is no more expensive than publishing in any other. But what governing body would set and enforce such a pricing standard? For publishers to agree on a fixed price would be illegal; for the government to do so would be at least impractical, and (if the history of command economies is any guide) probably disastrous.

Obviously, there are already OA solutions (such as self-archiving, institutional repositories and arXiv) that do not require authors to pay for the privilege of submission and publication, and therefore this disincentive will not exist in those contexts. But venues such as institutional repositories and arXiv offer little in the way of professional prestige for authors, which brings us to the second disincentive.

Open Access and Professional Prestige

As OA proponents are quick to point out,[3] there is no reason why a for-profit journal with restricted access should offer higher prestige to its authors than a nonprofit OA journal. Prestige should flow from quality and relevance, not from the economic model under which a journal is published. The problem with this line of reasoning lies in the gap between *should* and *is*. The simple fact, for now, is that an author knows she will gain more prestige by publishing an article in *Nature* than in PLoS. Compelling arguments that such should not be the case will do little to change this reality in the short term.

Nature has two significant advantages over PLoS: first, it has had almost 140 years of publishing history during which to build up its reputation, and second, it is primarily a print journal. The first of these two advantages makes obvious sense, and as PLoS and other OA publishers continue to mature and succeed, they will be better able to compete with established journals on that basis. The second is a function of the Internet's current stage of development and popular acceptance. Readers still regard online publications with suspicion, which is not an entirely irrational attitude. The barriers to entry in the online publishing world are ridiculously low when compared to those in the print world.[4] Anyone with a dial-up Internet connection, a decent HTML editor and a day or two of free time can produce something that looks very much like a scholarly online journal, whereas publishing a print journal requires a significant investment of time and capital. This does not mean that print journals are necessarily good, but since it is far easier to produce and publish trash than to produce and publish high-quality science and since it is far easier to publish online than to publish in print, it is completely reasonable to expect a higher trash-to-treasure ratio in the online realm than in the print one.

While none of this implies anything about the actual quality of existing OA content, it does mean that online-only OA providers must overcome a rational public distrust of the online format and, even more importantly, the still widely-held view in academia that online publication is less professionally impressive than print publication. This will probably not be a long-term problem for OA, but OA providers must survive the short term first.

Open Access and Copyright

The third potential problem for authors is the requirement that they give up copyright in their original work if they wish to publish that work in an OA environment. Is such abdication a necessary part of OA publishing? It depends on whose definition of OA one accepts. If OA means simply that the content is made freely available for the public to read and to use in accordance with accepted fair use standards, then authors may retain their copyrights, making it a non-issue. If, on the other hand, OA means that the author grants to the general public those rights that copyright law normally grants exclusively to the creator of an original work (the rights to copy, to distribute, to publicly display or perform, and to create derivative works), then copyright has the potential to be a significant issue for authors.

Unfortunately, all of the emerging international OA protocols do, in fact, explicitly require the abdication of copyright. While no single OA protocol has yet been universally adopted (and may never be), the three most widely accepted definitions—the Berlin Declaration,[5] the Bethesda Statement[6] and the Budapest Open Access Initiative[7]—all make it very clear that an author who publishes under any of them will give up all meaningful copyright in her work, despite some of their advocates' protestations to the contrary. Both the Bethesda and Berlin statements use the following language: "The author(s) and the copyright holder(s) ... 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." (The Bethesda statement adds the word "perpetual" before the phrase "right of access"; the Budapest statement phrases the same ideas slightly differently.) By granting to the world at large the right to copy, distribute, display and create derivative works from their original creations, authors effectively divest themselves of all the rights that traditionally accrue exclusively to authors.

Some OA advocates argue that by granting the privileges associated with copyright to the world at large, authors are not abdicating those rights at all, but simply "using" them to make their original work freely available and to help ensure that it is widely disseminated.[8] Such a stance betrays a fundamental misunderstanding of the benefits of copyright. The exclusive rights of authors are valuable only to the degree that they remain exclusive. Tempting as it may be to maintain that the author has not actually lost anything by sharing these rights with the whole world (after all, she still has just as much right to copy and distribute her work as she ever did), in fact she has lost the only thing that made copyright meaningful: the right to decide whether others may duplicate and redistribute her original work and where and how that work will be copied or distributed.

Will the loss of copyright matter to scientific writers since non-OA publishers have typically required copyright transfer anyway? It might not. But my suspicion is that many scientific writers will indeed feel differently about relinquishing copyright entirely than they do about assigning copyright to a publisher. While publishers' pronouncements about managing copyright with authors' best interests in mind have always come across as a bit self-serving, there is something to be said for that benefit in cases where authors do care about managing the distribution of their work. To predict that the loss of copyright will be problematic for the OA project is not necessarily to disagree with those who argue that authors of scientific articles (who, remember, are often significantly supported by public funds) *ought not to care* about their copyrights. But what matters to the present question is whether, in fact, scientific authors *will care* about retaining copyright in their original works, or at least about the difference between assigning it to a publisher and relinquishing it to the whole world. If they do wish to retain copyright, or to reassign it in a more controlled way, and if a particular OA solution will require them to abdicate it entirely to the world at large, then that OA solution will offer a disincentive to authors.

Conclusion

If OA providers will rely primarily on participating authors for both their content and their funding, then the architects of those systems must take special care to consider the wants and needs of authors. Telling authors that they should only concern themselves with dissemination and impact will not be effective. A system that counts on authors to feel the way they *should* feel and to want what they *should* want is likely to fail. In a free scholarly-information marketplace, what will matter is what authors *actually do* feel and want. At present, many OA systems are shaping up to be ones that require authors to come up with substantial sums of money in exchange for the privilege of giving up the copyright in their original work and publishing it in a relatively non-prestigious forum. Absent significant external compulsion, it seems unlikely that scholars will flock en masse to take advantage of such opportunities. And without widespread acceptance on the part of authors, the OA project is doomed to remain little more than a niche in the scientific publishing world.

Notes

1. For example, see related discussion threads in the LIBLICENSE-L archives (http://www.library.yale.edu/~llicense/ListArchives/).
2. For example, see the Organisation on Economic Cooperation and Development's Declaration on Open Access to Research Data from Public Funding. http://www.oecd.org/document/0,2340,en_2649_34487_25998799_1_1_1_1,00.html (August 2, 2004).
3. Peter Suber discusses ways of increasing prestige for OA journals in his excellent "The Primacy of Authors in Achieving Open Access." *Nature Web Focus: Access to the Literature*, 2004. http://www.nature.com/nature/focus/accessdebate/24.html (August 2, 2004).
4. PLoS is available in print as well as online; however, to the degree that it is perceived as primarily an online publication that can be printed and mailed rather than as a print publication with an online presence, its standing will likely continue to suffer from the general prejudice against online journals.
5. Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities. http://www.zim.mpg.de/openaccess-berlin/berlindeclaration.html (August 2, 2004).
6. Bethesda Statement on Open Access Publishing. http://www.biomedcentral.com/openaccess/bethesda/ (August 2, 2004).
7. Budapest Open Access Initiative. http://www.soros.org/openaccess/read.shtml (August 2, 2004).
8. Jan Velterop, discussion list message, "Re: OA and Copyright – Andy Gass quote in ***LJ News Wire***," July 2, 2004. (accessed August 2, 2004).