

Digital Fashion: *The obsession with open access*¹

By John Ewing

Executive Director

American Mathematical Society

Electronic journals are fashionable at the moment, and rightfully so: The advantages of electronic journals are apparent --- faster processing, reduced costs, and new features (such as searching and linking). But like all technology, e-journals have disadvantages as well, which we've largely ignored. Why haven't we talked about the disadvantages? Why don't we discuss the potential pitfalls of a new digital age? Why are we suddenly so short-sighted? Because we've succumbed not only to fashion but also to fad. We are obsessed with one special aspect of e-journals --- access --- to the exclusion of all else.

Our obsession with access is the greatest single obstacle to creating electronic journals that truly serve the needs of scholars. Discussions about scholarly publishing are shallow and often vacuous, driven by slogans. *Knowledge wants to be free. Every journal must be in the hands of every scholar. We should pay for research only once. Publishers have kidnapped our scholarship.* The public discourse on scholarly publishing and electronic journals has focused on such slogans, all of which center around a passionate ideology that has scant intellectual basis.

This is a risky stance. While the disadvantages of e-journals are presently little more than minor annoyances, small problems can grow into large ones, especially if we become distracted and divert our attention from the fundamentals of scholarly publishing. It will be hard to step back from this obsession to understand the real problems we face and to deal with them effectively, but we must.

What are the *real* issues we should worry about? Here are some examples --- four problems that arise when the miraculous new technology is combined with the human frailties of carelessness, greed, myopia, and dogmatism. They are not exhaustive, but they illustrate well why we should redirect our attention to solving real problems.

Careless Scholars

In the digital age, we can do things we could never do before. Here are some examples from the recent literature of things we can now do in electronic journals.

- A journal posts an article in January; in April, without any notice, the editors replace the article by a "corrected" version.
- A journal posts an article in July; in November, the publisher simply removes the article (without notifying the authors!).

¹ This essay is based on a talk given at a conference in Aveiro, Portugal, in August 2006. A version of that talk will appear in the proceedings of that conference, under the title "Digital Downside".

- A journal posts an article in April, but the author posts a corrected and substantially changed version on a well-known server in October, with an indication that the article appeared in April, but no indication that it was different.

Scholarship relies on its literature for its underpinnings; the literature connects not only scholars on different continents, but scholars in different centuries as well. Imagine a world in which 1% of the scholarly literature is affected in the above way, in which 1% of the articles one finds are not the "authentic" versions. Over time, as work based on faulty references spreads, the fraction of unreliable literature will increase. Experts may be able to overcome this, but *non-experts* will be overwhelmed. We ignore this potential crisis at the peril of future generations.

These sloppy practices occur because new technology allows us to correct mistakes, erase errors, and substitute unblemished work --- to do things we could never before do. That doesn't mean we *should* do them! To prevent this from destroying the scholarly literature, we need to insist on high standards. There are two ways to handle this --- back-linking or forward-linking --- and both require discipline. Every author regrets publishing mistakes (as do publishers!), but we have to resist the temptation to hide them.

Big Deals

The electronic age has made it possible for big publishers to offer *big deals*. Here's the way they work. Rather than subscribing to journals one by one, an institution is offered electronic access to a huge package of journals across many fields (many of which were previously unavailable to the institution). The added access, of course, costs the publisher (almost) nothing. Initially, the cost of this package to the institution is comparable to the cost of previously subscribed journals, and (the publisher points out) it's always *far* less than the total cost of the individual subscriptions. This seems to be a wonderful opportunity for the institution, and the vice-president for information (the one who negotiated the deal) crows about the fiscal prowess that brought about this arrangement.

Big deals are now offered by Elsevier (an innovator in this area), Springer, Wiley, Blackwell, and Taylor & Francis. In a recent survey of US research libraries, 93% indicated that they held bundles with at least one of these publishers. Just about half (49%) held bundles with at least four. Wiley, Elsevier, and Springer have achieved 70% market penetration.² When asked about their motivation, most said that it was a "good return on investment" and that the "alternatives . . . were prohibitively expensive"

But these institutions have paid a heavy price for that "good investment". Such big deals are almost always multi-year contracts that don't allow cancellations or changes. The extra titles are often of marginal value to scholars. Most importantly, decisions about what is purchased are made at a high level, far removed from scholars themselves, and most importantly far removed from the individual disciplines. In the end, big deals make it more difficult for scholars to make sensible decisions about journals based on price and need. Of course, big deals give the big publishers a substantial advantage over little publishers --- which is their real purpose.

² The survey collected data from 89 of the 123 member libraries of the Association of Research Libraries during November and December of 2005.

Big deals are hard to resist, although a few prominent libraries have done so. But the commercial publishers are winning, as they take over a larger and larger share of the scholarly literature.³ We need to fight back.

Walt Disney

Walt Disney is a metaphor. The first Mickey Mouse cartoon was produced and copyrighted in 1928. By the late 1990s, the term of copyright for Mickey Mouse (then 75 years for corporate works) was about to expire in 2003. The Disney corporation was making lots of money on the character, partly because new technology allowed new uses. What did Disney do? It persuaded the U.S. Congress to change the law, extending copyright by 20 years. It's now 95 years for corporations; for authored works, copyright extends for the life of the author plus 70 years.

Copyright --- the ability to own intellectual property --- was never meant to be forever. (Jack Valenti, the head of the movie producers association, seems to agree; he was overheard to say the term should be "forever minus a day".) But as technology progressed over the past 400 years, copyright became longer and longer \dots barely indistinguishable from forever. Until the digital age, this didn't affect scholarly publishing much. Now, however, there are new reasons to worry about copyright's reach.

Scholarly publishers have never made much money by selling journal back-volumes. In the age of print, publishers kept a few copies of old journals to sell to libraries when they wanted to replace missing volumes or (rarely) to start a new collection. Typically, such sales of back volumes amounted to 1--3% of journal revenues. Publishers expected to recover their initial costs (and make a profit) by selling *current* subscriptions, not by selling back volumes.

Now, however, like the Disney corporation, publishers see an opportunity to make money on their old material using new technology. They want to sell their journals twice, once as a current subscription and a second time as a collection of backfiles. There are many variations on this scheme --- some merely sell the backfiles *with* the current subscription, pointing out that it makes the subscription more valuable (and hence more expensive). But the central point is that publishers carefully control access to the backfiles.

Of course, publishers who digitize their back volumes want to recover their costs. But rather than find a way to pay the *one-time* cost of digitization, and then make the material freely available, they want to continue making money next year, and the year after that, and after that, and on and on into the future. This includes publishers of every kind, not just the commercial ones.

This doesn't make sense for Mickey Mouse, but it makes even less sense for scholarship. By "owning" scholarship and restricting access indefinitely, publishers make it impossible to realize the dream of connecting the large body of the past scholarly literature to the present. This makes our present journals *less* valuable, not more, and ultimately hurts the publishers themselves. And it provides ammunition to the nihilists who, ultimately, want the system of journals destroyed.

³ In mathematics, for example, commercial journals have gone from publishing roughly one-third of the articles in 1985 to publishing more than half in 2004. Similar increases seem to have occurred in nearly every field.

Copyright was invented to make publishing profitable. But no one --- no publisher, no author, no one --- needs to hold copyright for more than two or three decades. We ought to make a pact that everything goes into the public domain after 28 years.⁴

Mindless accountants

Using flawed statistics to make (equally flawed) decisions is not new. But it's so, so much easier to do in the digital age. Many people have written about the "impact factor", which is more and more frequently misused, but I want to talk about another troublesome statistic --- journal usage, which is even more dangerous than the impact factor.

Librarians all over the world are insisting on usage statistics for journals. ("Usage statistics" roughly translates into the number of downloads of various articles over a given period of time.) They claim such statistics are necessary in order to measure the *value* of journals and to make decisions about subscriptions. Publishers generally seem happy to oblige --- almost eager in many cases.

This is a hopelessly naive and dangerous game. What's the meaning of such usage statistics? What's it mean that some article has been downloaded 100 times? Have people read it 100 times? Surely not --- you don't *read* each item on which you click while browsing the web, so why would scholars *read* every article they download? And which is more valuable, an article downloaded once a week for 10 years, or one downloaded 520 times in its first month? What about caching or the many flaws in browser software that give rise to faulty counts? There are many, many questions, but almost no answers --- just the demand for usage statistics in order to measure *value*.

Making decisions using ignorant and flawed accounting has always been a bad idea, but in this case it may have some disastrous consequences. If librarians are really going to measure value by clicks, surely publishers will force users to click more often. For example, it would be foolish to give away abstracts or references or even bibliographic data if this leads to fewer clicks and hence less value. And if value equals clicks, then why would publishers let authors post copies of papers anywhere *except* on the publisher's website? The more liberal a publisher's policy in this regard, the more the publisher risks losing value. Making decisions by using flawed usage statistics will inevitably shift publishers' practices --- all in the wrong direction. We need to explain this to those who dogmatically claim that value can be measured by a few flawed numbers.

Open Access

A corrupted literature, a literature controlled by a handful of giant publishers, a literature hidden away forever, a literature shaped by nutty accountants using flawed statistics. These are a few of the potential crises caused by the advent of electronic journals. None is insurmountable, but each is worrisome. And so with such worries pressing upon us, what do we advance as our most pressing issue in the new electronic age? *Access* --- open access to all journals.

On the face of it, this is bizarre. In the digital age, scholars have more access to the literature than ever before. When an institution subscribes to a journal, the articles are now delivered straight to a user's desktop. Finding articles is far easier than ever before using any number of search tools.

⁴ The term of 28 years was standard for more than two centuries after copyright was invented, and therefore has historical meaning. See *Notices of the AMS* 51(3), March 2004, p. 309.

Articles can be downloaded, printed, and (Dare we admit?) sent to others via e-mail. Even when a user's institution doesn't subscribe to a journal, the user can see the abstract and (often) the list of references. This allows scholars to decide whether the article is useful and then to send e-mail to the author to ask for a copy (or simply to find it elsewhere on the web --- recent changes in publisher policies make this easy). And many publishers provide access to older articles without any subscription at all. None of this was possible in the print-only world --- none of it! In the print world, good access to the scholarly literature was restricted to a few institutions, and near-universal access was unheard of. This has all changed.

Nonetheless, instead of focusing on the kinds of potential crises mentioned above, the scholarly community has decided to focus on access --- the one aspect of the scholarly literature that has already been greatly improved in the digital age.

I've tried to understand why people are obsessed with access, and I've come to realize that there is no simple answer. In part, it's human nature: When things improve, we want to improve them still more. Having a taste of increased access, people want completely unfettered access. In part, this is because the call to "open access" is simple to understand. Scholars are not willing to invest time in wrestling with the tougher issues of scholarly publishing mentioned above, which are messy and sometimes hard to unravel. But there is a more subtle, and more insidious, reason for the obsession with access: Whenever technology changes the world around us, we become more susceptible to fads and fashions. New technology opens up new opportunities, and new opportunities bring forth opportunists --- zealous people who promote their own special causes.

Increased access is surely not a bad thing: It's hard to argue against having more access to scholarship. On the other hand, it *can* be bad if it causes us to ignore the real problems we face, and it can be tragic if new enticing technology combines with an irresistible fad to mislead us into acting against our own interests.

Open access has had both affects on scholarly publishing. When planning for our digital future, we spend *most* of our time talking about access (already greatly improved) and almost no time talking about the integrity of scholarship, copyright issues, foolish bureaucrats who use faulty statistics, or (worst of all!) avaricious publishers who have created a crisis in scholarly publishing. Instead, we talk about access. And, of course, those avaricious publishers are delighted by the distraction.

We also formulate ideas that are clearly *bad* for certain parts of the scholarly community. The author-pay model for journals simply does not work for some disciplines (mathematics among them, but even more so the humanities). Funding levels in some areas do not support this model and never will, at least at the levels of medical sciences. These areas will always be at a competitive disadvantage in an author-pay world. Is that good?

The self-archiving model of open access is clearly *bad* for scholarship, which depends on the long-term survival of a reliable web of scholarship --- into the distant future many decades from now. And preprint servers, without any obvious source of long-term funding, aren't much more attractive.

The government funded model of open access is also clearly *bad* for scholarship, and especially bad for those areas that do not compete well for government largess (again, the humanities stand

out). Besides, the modest budget for the government funded model seems to assume a stable publishing environment for the long-term, without the need to invest in ever changing technology. Surely this is short-sighted. We will have to invest even more in the coming decade than we have in the past in order to keep up with changing technology. Will the government really do that investing?

Indeed every model of open access that has been proposed is clearly detrimental to the broad interests of scholars. But open access has become an obsession for many that has blinded otherwise thoughtful people into acting against their own interests. And that's a downside to new technology that may do the most damage in the long term. This is a downside that already affects us.

Don't believe me? Just check out those large commercial publishers who are all beginning to embrace open access. They are creating separate corporate units, just to promote and implement open access. They can do that --- they have the resources. They know that no matter how the business model changes, they will be able to take advantage of it to make money --- lots of it. Surely publishers who have raised subscription prices for years will feel equally free to raise author charges in the future. And change is good for large corporations, who have the resources to invest in change; it's a lot harder for the little guys who operate on a tight budget and make a tiny profit.

A few years ago, the exorbitant prices charged by commercial publishers were viewed as the central problem of scholarly publishing. Scholars were (slowly) becoming outraged. Now, people seem to view the central problem as access.

Conclusion

E-journals are fashionable because their advantages far outweigh their disadvantages. The problems associated with e-journals surely can be solved by thoughtful efforts --- creating policies to protect the integrity of scholarship, insisting that decisions about journals remain in the hands of scholars, formulating and promulgating sensible copyright practices, and devising meaningful measures of value to replace senseless statistics. But none of this will happen if we fail to recognize that these *are* the important issues --- if we fail to resist the obsession with access.

Many of those who promote open access as the central issue of e-journals are motivated by high principles without fully appreciating the consequences of the actions they urge. Free access is, after all, a noble goal, and they are promoting a lofty vision for journals that, however impractical, is desirable in principle. We need to educate these people about the fundamentals of scholarly publishing so that they understand the problems we face.

Some who promote open access are ideologues, driven by ideology rather than a sense of stewardship for our scholarly heritage. Open access is their passion and the effect on scholarship is incidental. They attack those who question their passion with a vehemence normally reserved for religious zealotry. In spite of such attacks, we need to stand up to their fanaticism with forthright candor. Uncontested, their zealotry could damage our scholarly environment for decades to come.

Most scholars fall into neither group, however. They are unaware (or just barely aware) of the debate that swirls around them, and they remain absorbed instead in their own scholarship. We need to educate them about the problems of scholarly publishing and enlist their help in dealing with them.

We are all accustomed to fads and fashions nowadays --- clothes, food, and entertainment. The pace of life has quickened, and fads rapidly come and go. But scholarship is different. Scholarship requires a long-term perspective and a steady hand in making changes. Scholarship is not about today; it is about tomorrow. Scholarship is essential to civilization, and the essence of civilization is not what creature comforts we have in our homes, but what legacy of wisdom we leave for our children . . . and what they leave for theirs. In an age when many aspects of our daily lives are governed by fads and fashions, we must stay focused on the *real* problems of scholarly publishing as the world changes around us, and not be distracted.