

Open Access: should journals be free for all?

Steve Byford examines the issues and asks what would a change to open access mean for science and the Society

Scholarly literature should be available freely online, with no access restrictions. There's been an increasing amount of talk about this idea, usually called Open Access, both in the general press and in the scientific literature. Open Access journals would be funded instead by charges to authors - or rather their funding bodies. The Society has been considering it carefully for some time, and it continues to be a hot topic.

A recent related development is the Open Archive Initiative, which encourages institutions to set up online repositories for their researchers' papers, which would then be available freely to all. This might not seem an immediate threat to traditional journals, as no one wants to search across many institutions' web sites. However, new developments would allow readers to search across many such repositories from special centralised search engines. Why should libraries pay for journal subscriptions if their readers can easily access the same papers for free?

Open Access journals have been with us for some time, notably from BioMedCentral, a commercial company, which has charged authors \$500 (whilst estimating that its costs are probably four times this). Lately the Public Library of Science (PLOS), originally a pressure group, has become an Open Access publisher, with *PLOS Biology* and *PLOS Medicine* already launched, and more titles promised. PLOS charges \$1500 per article but admits that this does not cover its costs.

There was recently a bill before the US House of Representatives (the 'Sabo bill') that said 'publicly funded research should be publicly available'. The implication was that the funding for research would cover the costs of publication, but this was not stated explicitly. Perhaps there was a naive assumption that there would be no costs. Several US newspapers picked up the story and ran articles criticising publishers' outrageous profits, the apparent implication being that all scholarly publishers were equally guilty. Pressure from librarians is also continuing - it is often attributed to the academics they serve, but we've rarely heard from endocrinologists who are passionate about this!

More recently still, the UK House of Commons Select Committee on Science and Technology (to which the Society made a submission) has produced a report including, amongst its 82 conclusions, a recommendation that all UK-funded research output be deposited on free online institutional repositories. In the US, the NIH has produced draft proposals that would require all NIH-funded authors to place their final, accepted manuscript on PubMed Central for free access, and for journals publishing the papers to make them freely available no more than six months after publication. The publisher Springer has announced an optional author-pays, free-to-reader scheme ('open choice') for its journals. Elsevier now permits authors to deposit their accepted papers on free-to-reader institutional repositories.

What should the Society's view be?

What's wrong with the current system?

It's sometimes argued that the subscription model has served the academic community well for decades, producing high-profile quality-assured journals. Why throw that away? Wouldn't it be better to defend it vigorously? The trouble is that it has some deep flaws, leading some to wonder how long it can remain viable.

Perhaps the strongest symptom is the fact that most mature journals lose a small percentage of their library subscribers every year. Since most of the costs of publishing are independent of the number of copies produced, publishers' unit costs increase, which forces up journal prices. This leads to a vicious cycle of further cancellations, since library budgets can't keep up. The underlying cause is not primarily irresponsible pricing by publishers (although not all have been entirely innocent), but the mismatch between the funding for research on the one hand, and the funding for the dissemination of its results on the other. Over the last several decades, the amount of scientific research being done around the

world has grown enormously, resulting in more and more research papers, which needed to be published in more or bigger journals. Libraries have not usually been provided with anything like the same proportion of extra money with which to buy them. So the round of cancellations began.

That's not the only problem. The journals market is dysfunctional in other ways. For example, if you were to sit down and compare the prices of journals with their perceived quality, or with their impact factor ranking, you might be in for a shock. We have come across journals from large commercial publishers with prices up to five times that of higher-impact, comparably sized direct competitors from not-for-profit learned societies. Why haven't market forces corrected this? It's perhaps largely because of the fact that the decision to publish in a particular journal is divorced from financial factors - librarians know all about prices, and researchers know all about quality ranking. The two issues get pondered in two separate sets of heads.

Are there other solutions?

Against a backdrop of restricted purchasing power by libraries, how might the Society seek to disseminate its journals more widely, and still protect its subscription revenue? It's a good question, because we've historically relied on our journals to be a major contributor to funding all the other things we do for the benefit of endocrinology, in fulfilment of our charitable remit. This remains largely the case, even though we've succeeded in developing other revenue streams, via BioScientifica's growing range of services.

One approach is to find ways of giving a lot more online access (which doesn't cost much to provide) to additional sites that wouldn't have been able to buy additional conventional subscriptions, and to do so for a comparatively small amount of extra money. This is something that appeals to consortia of universities, for example, only some of whose members currently have an institutional subscription, or to large companies who want online access to their entire corporate network across many sites. Clients get wider access, we get wider dissemination and a little more money - everyone wins!

Well, almost. The trouble is, setting up and maintaining the terms of these deals is a labour-intensive process. Librarians also find it easier to justify their time if they can negotiate for a large number of journals at once, meaning that the large commercial publishers end up with a considerable advantage, not least because they find it easier to send out large, region-specific sales forces. Librarians often end up committing large proportions of their budgets, often over several years, to the very publishers they say over-price for lower-quality journals, whilst squeezing the amount that's left for the smaller publishers whose products they say offer better value. It's an odd world.

The Society has tried to combat this by co-operating with other small not-for-profit publishers to offer its journals jointly with theirs. For example, we've recently signed up to one initiative that offers 430 journals from 44 diverse international small publishers. That should make us a bit more noticeable.

However, whilst 'multi-site licencing' stands a good chance of alleviating the symptoms of the current problems, it doesn't really address their root cause. It also needs a lot of administrative effort.

How could Open Access help?

Immediate freedom of access to scholarly research results is intuitively attractive to us all. As readers, we want ease of access from any location, as authors we want our work to be disseminated as widely as possible. These expectations are frustrated by a system that restricts access to just those journals our own library can afford.

The mismatch between funding for research and for its dissemination could be removed at a stroke if research funding bodies included, as part of their research grants, funds for authors to pay for the publication of their results.

The current mismatch between the price and quality of journals would be directly under attack if an author's choice of journal were influenced not only by the journal's perceived prestige and quality but also by the publication costs. Any price differentials would then be transparent to the researcher and the market would force a link between price and quality.

Under the new model, publishers would sell a service to authors. They would be judged by the extent to which they maximised the exposure and credibility of the work they published, and by how much added value they gave the work compared with authors merely depositing their manuscripts on their institutions' online repositories.

The Society has been enthusiastic about the principle of an Open Access model for some time. As far back as 1999 we were suggesting that the research grant, rather than the library budget, would be a better funding route for research dissemination, for precisely the reasons outlined above.

Why delay? Open Access today!

Well then, what's to stop us embracing the new model? It's perhaps obvious that it won't work for every kind of journal: what about clinical research for which there is no grant? Similarly, it's difficult to see how review journals could be financed this way. Even so, what's to stop us switching our basic science research journals over to Open Access? How do we make the transition?

There's the rub. A promising route that captured the Society's imagination was the so-called 'hybrid transition model'. Charge the authors an optional fee: if they choose to pay, their article becomes free to all; if not, it's restricted to subscribers, as at present. That looked as though it might take us forward while limiting the risks.

Until you project the money we might get. Our financial viability then turns out to depend precariously on a few key parameters. Firstly, how much should we charge authors? Then, what proportion of authors would take it up? Finally, how would this affect our subscription income? The answer to the first affects the second, which in turn affects the third. Set the price too low and we won't get enough money to cover our costs, and we encourage a high level of take up. If that means a substantial fraction of the journal is free, many librarians will heave a sigh of relief and cancel their subscription. Under certain very plausible scenarios, that could kill the journal that tries it. Set the author fee at a more realistic level and it will be perceived as extortionate, and we lose the sympathy and loyalty of our authors and readers.

It's quite scary. Tweak these parameters by not a lot, and the Society could either be rolling in extra cash or, quite simply, permanently out of business. Worse still, because the effects on subscriptions would not be immediate, it could be two or three years before a fatal decision took its toll - we wouldn't know until then what its effect had been.

And that's frustrating. We have here a new model that could solve everything, but which could destroy everything as we edge towards it. It's as though an Open Access paradise is visible to us in the distance, but in order to get there we have to cross a bottomless ravine using an unsafe rope bridge.

Unless we can find another way over. Can we launch an Open Access experiment without serious risk to our financial viability? This is exercising our minds greatly at the moment. Meanwhile, your Council and Publications Committee would be extremely interested to hear your views! And then, as they say, watch this space...

Comments, please, to Steve Byford at the Society's office or via the website at www.endocrinology.org/sfe/forms/contactform.htm.

