

# Open access: principle, practice, progress

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The principle of open access is gaining currency and is not often questioned any more. The discussion has shifted to practical issues of bringing about open access, of which there are many. This shift, however, is progress for open access. Understanding is growing of the exact nature of practical problems, of how the open access publishing model works and what the underlying issues are that objections to the model actually address.



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## Principle

The idea that open access is good, for science and society, seems to have gained a lot of currency of late. Whereas it was widely ridiculed just a few years ago, we now see even those who appeared to be staunch opponents of open access admit that there is something in it for science and society (though not necessarily for themselves). We have seen senior managers of major publishing companies and scholarly societies express sentiments from "How could one be against?" to "It is in the public interest", to "We have no problem with open access". That is clearly a gain for the concept of open access as a principle. Nonetheless, these words of support for the principle were attenuated by qualifications such as "no problem with open access *per se*" and "It's moving **too fast**".<sup>1</sup>

Perhaps it cannot be expected that those I quote would fully support open access. After all, they face tremendous practical difficulties. How to maintain their level of profit to satisfy their shareholders or level of 'surplus' to maintain their good deeds, for instance? And at the same time, how to satisfy their customers as well? A classic case of being caught between a rock and a hard place. To re-engineer a business is fiendishly difficult. To do it in order to increase profit levels is hard enough; to do it knowing that profit levels might well go down seems just too much to ask. Business managers must remain rational.

Unfortunately, we live in a science communication culture that makes it perfectly rational for

publishers to limit the dissemination of research results. It also makes it perfectly rational to increase prices regularly and virtually never to decrease them, in the knowledge that the market is quite inelastic: lowering prices will not likely result in higher unit sales. Competition on price, therefore, does not exist.

The combined effect of these rational responses leads to further limitations to dissemination and further increases in costs to the scientific community, making clear that the status quo is not a realistic option for science publishing.

In the UK, a cross-party parliamentary body, the House of Commons Select Committee on Science and Technology, held an inquiry into science publishing and came back with recommendations that "... the Research Councils and other Government funders mandate their funded researchers to deposit a copy of all their articles in their institution's repository [...] as a condition of their research grant" and that "... the Research Councils each establish a fund to which their funded researchers can apply should they wish to publish their articles using the author-pays model."<sup>2</sup>

The UK Government responded that it "... is not aware that there are major problems in accessing scientific information, or that there is a large unsatisfied demand for this." Given the widespread discussion of these problems, this seems a curious response, but the Government did not wish to tilt the "level playing field."<sup>3</sup> And how will the

Department of Trade and Industry (of which the Office of Science and Technology is a department) achieve this? By establishing a 'Research Communications Forum' with traditional publishers represented but, at the time of writing, without including any representation of UK open access publishers! Must be one of those mysterious ways in which governments work, perhaps.

The Government response was greeted with relief by the STM publishers. Doesn't this contradict their professed support for the principle of open access, though? Or is this one of those mysterious ways in which the STM industry works, perhaps? In the words of Robert Campbell, president of Blackwell Publishing: "A triumph of common sense over ideology; obviously, we are glad that the Government supports a successful industry."

Phew! Victory.

Curiously, in the weeks after the Government response, the inflow of articles to the open access journals published by BioMed Central experienced an acceleration that hasn't abated yet. Complete coincidence, of course, but who knows? Perhaps the STM publishers might contemplate the words of king Pyrrhus of Epirus after the battle of Tarentum in which he lost half his men: "Another such victory and I shall be ruined!"

One thing is clear: open access is here to stay.

## Practice

Whilst open access is becoming an accepted principle, its implementation in practice is still best described as a drop in the ocean. Why is something that is so desirable and useful so slow in developing a critical mass? One reason may be that researchers live in what I like to call an 'ego-system'. Few researchers can escape its effects. They have to survive and thrive in the system, and publishing in the highest journals in the pecking order of their field is often an imperative. Promotion and tenure assessment mechanisms rely to an extraordinary degree on publications in long-established journals. Researchers would benefit, as would science as a whole, from the maximum dissemination of their papers that comes with open access, but they understandably try to get their papers published in those long-established conventional journals due to the pressure of potential promotion. The system thus disproportionately

favours incumbent journals over open access journals, most of which are, of necessity, new. As a result there is a high degree of inertia in the publishing culture of science.

As users of science literature, researchers are often ignorant of the costs of publishing. The effect of rising costs – limited access to the literature, sometimes severely so, due to the unaffordability of comprehensive access – is often blamed on the libraries and institutions, not on the system of publishing.

The dilemma that many a scientist faces is this: publishing with open access is better for science but not for me; publishing in a traditional journal is better for me but not for science.

Of course, publishing in open access journals is not the only way to achieve open access. The alternative is self archiving. The best of both worlds, on the face of it. One can publish in an established journal and immediately deposit a version in an openly accessible institutional or subject-oriented repository. That certainly relieves the symptoms of the old restrictive model. As such it is extremely useful and ought to be encouraged. But we at BioMed Central, and a few other open access publishers, seek to remove the root cause of limited access. We want to offer solutions that transform the entire publishing system and make open access the central achievement of the process.

Scholarly societies face a dilemma, too. Their fear is that self archiving may undermine the income they have hitherto enjoyed from subscriptions. There is some logic to that argument, of course. Why would a library subscribe if the content of a journal is available for free? Especially now that open repositories are becoming both more sophisticated and widespread, and teething problems of searching across, and harvesting from, many different repositories are disappearing. On the other hand, societies feel the need to adhere to their mission, which almost universally includes the 'spread of knowledge'. Should they try to keep the surf back – King Canut-like – or should they ride the open access wave? The solution we favour is that societies look very seriously into the economic possibilities of open access publishing (and such possibilities do exist!), so that they do not risk losing all.

The parties that are in a position simultaneously to influence the promotion system as well as the publishing models are the research funding bodies. Few dilemmas for them, one would have

thought. And indeed, it is becoming clear that the leading role of some visionary funders, such as the Wellcome Trust, is making a major difference with regard to the progress of open access. A funding body can give succour to a researcher who might hesitate to publish in an open access journal in three important ways: firstly, by footing the bill for any reasonable article charges; secondly, by giving reassurance that for future funding they will assess the quality of the articles themselves rather than just look at the reputation of the journal in which they are published and, thirdly, by recognizing the intrinsic merit of contributions to an open access infrastructure by the publication in open access journals, thus enhancing the general reputation of scientists in the public eye.

### Progress

Progress is still fairly slow, as is to be expected for a process that is little less than a complete cultural change with regard to the publishing behaviour of research scientists. Publishers would not be expected to change until they have to. Even so, a number of publishers have started to experiment seriously with open access. And the new titles being added to BioMed Central's list show no sign of slowing down. Neither does the aggregate article inflow to our open access titles.

A number of persistent misunderstandings still dog the development of open access. Many misunderstandings and myths are kept alive and perpetuated by the traditional publishers. For instance there is the idea that open access publishing is not economically viable, because the model of paying upfront, for unlimited dissemination, rather than paying afterwards, for access, hasn't proven itself. This betrays the extraordinary tunnel vision of the science publishing industry, for they would only have to look at other branches of their own industry to see that there are major publishing sectors working on precisely that model: it is the model of advertising, of course. The pressures that advertisers work under are not all that dissimilar to the pressures on researchers. 'Advertise or perish' would for many be a completely recognizable slogan. There are important differences between advertising and publishing scientific research results, of course, such as peer review. However,

the existence of peer review is not usually mentioned as a perceived economic impediment to an upfront payment model. And there are striking similarities. This analogy may be a bit uncomfortable, perhaps, but we're looking at the financial model, not the trustworthiness of the message. An advertiser wants to disseminate information about his product or service as widely as possible, aiming to stimulate sales. Rather like what a researcher – and his funder – wants to do with the results of his research when he aims to achieve maximum impact. It is 'publish or perish', is it not? For most research results, 'push' achieves more than 'pull', to use some terms borrowed from advertising. An advertiser pays for the service. Why shouldn't a researcher and his backers? Isn't publishing the finishing touch of a research project that is otherwise wholly financed upfront by its funders? Why would the crucially important finishing touch be alone in being financed otherwise, especially if that may compromise the impact of the project? Is it not time science publishing recognized this reality?

Another misunderstanding is that traditional publishers need to be protected by the scientific community. Really? Why? The recent discussion about the National Institutes of Health (NIH) plans for depositing articles in PubMed Central seemed to revolve completely around the potential damage to traditional publishers. But isn't it the task of funders, and thus of their grantees, to get the maximum out of their investments and efforts? Should their focus not be on the protection of the efficacy of science? The concessions made, a proposed delay in the open availability of the published results of research that the NIH funded, are purely serving to protect publishing interests and do nothing to protect science and society as a whole from the damage of restricted access. Given the need for the NIH to be politically sensitive, the situation may, more than anything, reflect the relative lobbying strengths of the traditional publishing industry over the new open access initiatives and their advocates.

However, there is every reason to be optimistic about open access. Misunderstandings and myths are steadily being cleared, albeit perhaps more slowly than originally hoped, and the realization grows that the enterprise of science benefits from sharing its research results freely and immediately among its peers and with society at large.

## References

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2. House of Commons Science and Technology Committee, Tenth Report of Session 2003–04, 'Scientific Publications: *Free for all?*' <http://www.publications.parliament.uk/pa/cm200304/cmselect/cmsstech/399/39902.htm>
3. Government response to the Tenth Report of the Science and Technology Committee, in the Fourteenth Report of Session 2003–04 <http://www.publications.parliament.uk/pa/cm200304/cmselect/cmsstech/1200/120002.htm>

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