

ralf schimmer **view from the top**

# How to make open access the natural choice for researchers

Since the turn of the millennium, open access has become an established principle. Innovations such as mandates and repositories, along with detailed advocacy and guidelines, have the common aim of moving the researcher towards open access. There has been substantial progress: 13 per cent of scientific papers are published with immediate open access; institutional repositories are mushrooming; and there is a constant stream of initiatives.

Nevertheless, it is worth pausing to ask why the traditional pre-web publishing system that locks content behind a paywall is still alive and thriving. How is it that a model so clearly dysfunctional and outdated in the context of a modern, web-based ecosystem has not only survived but is more profitable than ever? What is required to accelerate the transition to open access?

Maybe there is a need to change tack. Rather than pushing researchers towards open access, would it be better to take open access to researchers by making it a feature of their daily routines? What would that mean?

Although open access has an increasing market share, the dominant publishing model is still based on a subscription system with inherent deficiencies in terms of access, usage restrictions and excessive costs. Subscription journals continue to be attractive, not least because career considerations steer researchers towards journals they know and trust. Flagship journals such as *Nature*, *Science* and *Cell*—along with the many others reflecting academic specialisations and personal aspirations—are the brands that constitute the natural habitat of research.

Many who advocate open access envisage the development of a new publishing environment—new journals, new ways of operating—in which researchers can eventually be resettled. But it may be preferable to work with the publishing habitat that has evolved organically and bring open access into it. This could be achieved by transforming the existing core journals' business models while simultaneously maintaining their function of providing quality assurance through peer review, publishing services and brand value.

This would enable a large-scale shift to open access while still providing researchers with the services and functions of the journal publishing system in which they are comfortable. The beauty of this idea is that the disruption would be perceptible only in the organisational domain in which the money is managed; since this side of business is typically hidden from researchers, authors

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would not experience any disturbance to their ordinary publishing activity.

This idea is not new. But, by analysing financial and publication data, the Max Planck Digital Library has recently been able to strengthen the arguments for the financial feasibility of such a large-scale transformation. We have shown that there is already enough money in the system for the transition to open access to be at least cost-neutral. This shift can be brought about by redirecting the money that is channelled through libraries for journal subscriptions. Eventually subscriptions would be terminated so that the liberated funds could be reinvested in publishing services.

**HITHERTO, DISCUSSIONS** of an open-access economy based on article-processing charges (APCs) have often raised anxieties about a presumed increase in costs. There is a widespread perception that moving from subscription journals to a publishing system funded by author payments will entail a large extra expense, as embodied, for example, in the UK government's move to subsidise universities' publishing bills following the recommendations of the Finch report in 2012. As it turns out, such fears are unwarranted.

Most cost estimates so far have been based on false assumptions and a lack of publication data. In calculating the costs of open access, the great mistake has been to do so by multiplying each institution or country's output of research papers by the cost of a typical APC. This approach ignores that most papers these days have multiple authors and so will appear in several bibliographies. Counting all of them as individual initiatives will give an inflated impression of cost.

If we instead assume that the cost of an APC will be borne by each paper's corresponding author—or you could split costs between authors, the effect would be the same—those countries with strong science systems such as the UK, Germany and France will end up being accountable for 65 to 70 per cent of the papers they produce. For institutions, the figure usually lies between 40 and 60 per cent.

What do we know about the current output and costs of the scientific journal publishing system? Data from market analysts such as Simba Information and BNP Paribas show that each year the world spends €7.6 billion on scholarly journals

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'Fears of large extra costs in an open-access economy are unwarranted.'

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through the subscription system. This yields two million papers, which works out at €3,800 per paper, or €5,000 if only those 1.5m papers in the Web of Science are counted.

Compare this with figures of around €1,200 to €1,300 for the average APC collected by Germany's largest public research funder, the DFG, or Austria's central funding organisation for basic research, the FWF. The equivalent figure for the Wellcome Trust, which unlike these agencies funds researchers to publish in more expensive hybrid journals, is about €2,500 per article.

It is clear that a large-scale transition to open access is possible without added expense or financial risk. The editorial aspects of scholarly publishing can remain unchanged. What is needed is a change in the business model, and this calls for a concerted global effort to bring it about.

In the task of moving money away from subscriptions and towards APCs, a new breed of licence agreements—the so-called offsetting model—will play a crucial role. Several publishers are experimenting with such models. In particular, Springer Nature, the world's second biggest scientific publisher, is assuming leadership with its Springer Compact model, in which one central agreement covers both APCs and journal subscriptions. This is being piloted in the UK, the Netherlands and Austria, and soon also with the Max Planck Society.

**OFFSETTING REFINES** and extends the hybrid approach, while at the same time avoiding the infamous 'double dipping', in which institutions pay both APCs and subscriptions for the same journal. At the core of the model, the level of subscription spending is maintained and turned into an APC budget. As a result, access to licensed subscription journals is retained, and at the same time all entitled corresponding author papers will be made open access at the moment of publication under a Creative Commons Attribution (CC BY) licence.

Offsetting pilots are important, not only because they shift money but also for building the necessary infrastructure to allow for article-level billing on a large scale. Neither the production systems of traditional subscription publishers nor library workflows are currently prepared to generate and handle the volume of invoicing created by the move from subscriptions to article-level payments.

Pilots, with relatively small numbers of transactions, can model the billing process and make it robust and scalable so that fully-fledged systems can operate smoothly. Initiatives such as the German-led consortium Efficiency and Standards for Article Charges already exist to support these pilots.

Important as it is at the moment, offsetting must be a staging post and not a destination. If it persists, the risk is that it will replicate the complexities of big-bundle subscription deals with all their inherent problems and perpetuate the market advantages of the big publishers. A crucial task for libraries is therefore to get involved in these transition models now, to shape the parameters for the open-access business model.

Publishers are not the only group that has to open up for the transition; the challenge for libraries is perhaps even more demanding. As financial flows are redesigned, libraries will have the best chance of remaining relevant if they take a broad perspective. They will need to develop their strategic and organisational capabilities and open up their acquisition budgets to different information and communication services.

To achieve this they must realise that the acquisition budget is at present too significant and powerful a tool to be used solely to let users read. Libraries will have to redefine the purpose of their acquisition budgets if they want to retain the levels of funding to which they have become accustomed. The increasing transformation to open access will therefore force libraries to reconsider their roles, develop new workflows and set their acquisition budgets in a new context.

It is the research organisations of the world that hold the key to journal publishing's final transition to open access. None can bring about this change alone. This is also true of individual countries, even where there is strong political and financial support, as in the UK. What is needed is a global consensus among research organisations to withdraw all spending from journal subscriptions and to spend instead on publishing services. This would give publishers a strong signal that their services are still wanted and that their journals will continue to be soundly financed.

The mechanics of the transition seem simple. The big challenge will be to synchronise the many players so that they all act more or less at the same time. Given the political and grassroots visible momentum around the world, along with the openness and readiness shown by so many publishers, achieving such an ambitious goal is not beyond imagination.

The Max Planck Society has led the discourse on open access ever since the 2003 Berlin Declaration called for academic publishing to become open-access and internet-based. The society will use future Berlin Open Access Conferences—continuing with this December's—to push the discussion further. Fellow research institutions will be invited to test the consensus for such a transition and discuss how open access can finally be achieved. Our shared commitment to this transformation is essential, as it is part of the responsibility of every research organisation to ensure that all is well in its researchers' wider habitat. *More to say? Email comment@ResearchResearch.com*

'Editorial aspects can remain the same. What needs to change is the business model.'