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## The open access movement at a crossroads – are the big publishers and academic social media taking over?

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### **Abstract**

For over a decade the Open Access debate has been focused on two solutions for providing universal access to the scholarly journal literature, a gold one of newly founded or converted OA journals, and a green one of openly available manuscript copies in institutional repositories. Recent developments are indicating that the mechanisms within these two routes might look quite different from previously envisaged. Firstly authors now seem more prone to choose academic social networks instead of institutional repositories for posting copies of their published articles. Secondly major publishers are increasingly tapping into the OA market, by founding mega-journals and by negotiating agreements bundling subscription e-licenses with hybrid OA for whole countries. If such deals proliferate this could provide a mechanism for the publishers to flip their whole journal portfolios to full OA at the same total revenue level as before.

## Introduction

Open electronic access to scientific publications (OA) is an ambitious vision which has engendered a “movement” trying to influence the operation of a particular niche market: the dissemination and sale of peer reviewed scholarly articles. Over the past 20 years OA advocacy has inspired the actions of many stakeholders involved in this process, including academics who have founded OA journals, publishers who have started OA journals using innovative business models, librarians who have launched repositories for housing OA copies of article manuscripts, and research funders and policy makers who have defined mandates requiring open access to the results of largely publicly funded research. There are however internal schisms within the movement, in particular concerning the way to reach full scale OA. Some advocate journals converting to OA and the creating of new OA journals (gold OA) as the primary route, others a symbiosis of subscription journals and self-archiving of OA copies in repositories (green OA). All in all the results have to some degree been disappointing and progress towards total OA slow.

Compared to the earlier situation on which much of the OA discourse is based the last couple of years have seen two important developments which have not been foreseen by many writing about the phenomenon. The first is the increased activities of major research funders, in particular in Europe, in the creation of earmarked budgets for the funding of Gold OA article for authors in the countries in question (for an example see Fransvåg 2015). This has already increased the uptake of hybrid OA, and is also influencing the strategies of the major publishers, who in addition to launching mega-journals and converting individual journals to OA are starting to negotiate countrywide licensing agreements, which bundle big deal subscription access with APC payments for hybrid journals. If this development continues, the hybrid OA solution, which for a while seemed at a standstill might after all provide a vehicle for the successful transformation of leading subscription publishers to OA-publishers. As a result the major subscription publishers could end up dominating the OA market, charging academia roughly the same amount of money for their services as before, and their profit levels would remain the same as before.

In parallel with these developments publishers have tightened the rules of authors posting OA copies of their articles in repositories, in particular in institutional repositories, which many OA advocates for years have marketed as the solution to rapidly achieving a high degree of OA. In particular embargo periods have been imposed or lengthened. Even without such measures, institutional repositories have not been a huge success with authors despite a decade of infrastructure development. In stead Academic Social Networks, such as Research Gate, Mendeley and Academia have entered the market (Van Noorden 2014). In contrast to an earlier generation of broad subject-based repositories like arXiv and SSRN these are usually venture capital funded commercial enterprises characterized by often quite aggressive marketing. The ease of uploading even the published versions of articles to such sites has rapidly

made them popular with especially younger academics, as alternatives to institutional repositories.

These two recent developments influence the progress of OA via the green and the gold route. The effects of academic social networks is primarily one of substitution and internal competition for the attention of the authors, not offering a long term solution. The effect of the “big deals 2.0” can on the other hand prove be extremely important, if this triggers a massive conversion of highly established journals to full OA.

## Gold OA: Return of the giants?

In the past couple of years there have been an increasing number of press releases announcing deals between major publishers and university library consortia or research funders, which bundle multi-year subscription e-licenses and APCs for hybrid journals. The UK and the Netherlands have been fore-runners (Poynder 2014, VNSU 2015). The publishers seem poised to continue announcing such deals.

A number of studies have been conducted in recent years trying to compare the costs to universities and their funders of hypothetical full-scale gold OA compared to the current subscription costs (Schimmer et al 2015, Houghton 2009). Often such studies end up predicting that the costs would be lower than in the current system, often using empirical data on currently paid APCs as a basis. They also often recommend not accepting the higher APC levels that major publishers advocate as being required for publishing (and charge for hybrid OA articles).

This illustrates a particular aspect of the agenda of the OA movement. Many advocates mix other goals with the primary goal of just making scholarly publications freely available to anybody with web access. The goal of curbing the price escalation of library subscriptions (the so-called serials crises) and of decreasing the overall price of subscriptions + article charges to authors is understandably important to university librarians and university administrators. Also many OA advocates are fiercely criticizing the high profits earned by major publishing companies.

In my opinion If gold OA is to take place in the next few years it can only come about via the major publishers massively converting their portfolios of established journals, not via authors choosing outlets among newly started OA journals. And judging from the past experience of how publishers have been able to dictate the terms of the big deals to hundreds of university libraries around the world, it is difficult to imagine that the latter would be able to forcefully press down the APC levels from the level the publishers would judge necessary to continue at the same revenue levels.

What such studies mostly also overlook are the very important savings that can be achieved in the overall article dissemination process. There are three

important types of cost savings, which are overlooked if the analysis is only focused on the monetary expenditures on journal subscriptions and article processing charges.

Firstly if all journals were to be OA, there will no longer be any need for the work libraries worldwide spend on planning, prioritizing, negotiating and managing journal acquisitions, including setting up the internal portals that provide the access to the researchers and students. The total costs of all of this summing over all the worlds universities is substantial. The new cost of managing APCs is likely to be much lower.

Secondly all authors worldwide save a lot of work and time in accessing articles, because tracking references is only one click away (when working from home it often takes me five minutes of actions to retrieve an article that my university has a subscription to). This is not to mention articles I don't have a subscription access to, for which I might start searching the web for possible green OA copies or even emailing the authors to ask for a copy. Needless to say summing up over millions of researchers with hundreds of articles each per year, this is a real cost but one which doesn't show up in any formal budgets.

The third category is the most difficult one to estimate but also perhaps the most important. Economists talk of the opportunity cost of an alternative not pursued or used. This equates to less impact of articles which are not read at all because of readers hitting subscription or pay per view barriers (the major motivation for OA to start with). This is particularly important for reference tracking, since already cited articles are likely to have an above average scientific contribution.

It is this author's opinion that even at a cost (in terms of APC payments) equal to current subscription charges science, education and industrial development is much better off in full OA than currently, and that there has been too much emphasis in the OA debates on curbing the monetary costs to university libraries and on opposing the oligopolistic profit levels of the big publishers. The big picture is what matters to society.

## **Green OA: are academic social networks taking over?**

The rapidly growing popularity of academic social networks (ie Research Gate) as a place for authors to post copies of their articles has not been foreseen. It appears that these networks, through their general appeal and other services, as well as the ease of uploading also illegal publishers versions of the articles, are starting to become more attractive than the more strictly curated institutional repositories.

In a project at my university Hanken, a small Finnish business school, the OA status of all 587 international peer review articles published by our faculty in 2012-2014 was manually checked in mid-2015. Of the articles 8 % had been published in OA journals or were for some other reason available freely at the publisher's website. For an additional 34 % an OA copy could be found

somewhere. What was interesting about these copies (some of which overlapping) was their spread over personal web pages, subject repositories, IRs of other universities, our own IR and academic social networks. In particular there were green versions of 58 articles in Hanken's own IR most of which accepted versions. The number of copies in academic social networks clearly outnumbered these with 93 copies, 70 of which were the publishers' versions of record! Results indicating the popularity of academic social networks have also recently been demonstrated in a more systematic study of articles from UK universities (RIN 2015).

The scenario of predominantly subscription access in symbiosis with an almost 100 % OA achieved via self-archiving in institutional and subject repositories like arXiv and PMC, has always to me seemed highly unlikely. One thing is that such repositories have to respect the publishing licenses of the uploaded articles. As long as the upload shares have been low, fairly liberal rules have prevailed, but recently publishers have started to impose longer and stricter embargoes, also in order to increase the attractiveness of their hybrid offerings. For a while, Elsevier for instance had a rule that uploading to an IR was allowed, but only if voluntary, not in case the university in question had a mandate! This highlights very clearly that publishers have tolerated IRs only as long as upload shares have been low, but will tighten the screw via embargo periods etc as soon as there is any risk to their subscription income or if they want to steer authors to use the hybrid option instead.

Getting universities to put in place effective OA mandates also seems difficult, due to the complex negotiation and internal lobbying processes required. Mandates only cover a part of all article output, despite impressive growth in the number of mandates recorded in the ROARMAP registry with some 500 universities listed. What matters more than the total number of universities, is what number of articles these mandates apply to and hence that the biggest universities in terms of article output should be included. Also many of the mandates have proven very ineffective, for instance the University of Helsinki one, since they lack strong incentives.

Perhaps most importantly the difficulties of getting authors to format their articles, check the often complex and obscure licenses and of finding the time to do the uploading of the manuscripts and the metadata have been underestimated. This is becoming quite evident in the interviews we have conducted with authors at our university. Even if the IR is in place, has instructions and the university possibly even a (ineffective) mandate they largely don't do it, because this has low priority for them. Many of the researchers we interviewed were even unable to reconstruct the accepted version manuscript, which would be the basis for the upload. No wonder many find it so much easier to just rapidly post a copy of the published PDF in an academic social network, no questions about the legality asked.

## Conclusions

Academic Social Networks may for the time being overshadow IRs as the leading green OA vehicle, but they are highly volatile and their long-term popularity is by no means guaranteed. Like earlier third-party sites for downloading copies of music and films, they move in a legally risky grey zone. At any time publishers might come after them with law-suits and/or massive take down notices (Robinson 2014). Their business model is often to be sold when the market value of their customer base is big enough. And their marketing practices of spamming academics with invitations seemingly sent out by colleagues (just got one as I'm writing this), are not far better than the practices of predatory publishers.

Of the two developments discussed in this article, the emerging shift in gold OA towards the big established publishers is by far more important. Much depends of how rapidly and if the publishers can negotiate a critical mass of big deals bundling subscription access with hybrid (and full) OA. Already now countries like the UK and Netherlands are well on their way, and many other European countries have the necessary infrastructure of national library consortia handling nationwide negotiations with the publishers. And China probably has a political infrastructure, which would facilitate rapid top-down decision-making. If and when a tipping point of the articles published by the major publishers being OA in hybrid journal is reached, things could start moving rapidly. David Process (2003) in an article in this journal 13 years ago outlined this scenario, and he might be proven right.

I would like to finish off on a personal note. What has attracted me for twenty years to the notion of OA is its simplicity, which is almost beautiful, and makes so many intermediaries unnecessary. Every scholarly article available to everybody, only one click away from a Google search or a reference. No fuss about a possible what about reading or reusing is, nor any need for registration to read. The article just being there, for you to read, print, copy parts. How this in the end will be achieved matters less to me, the marketplace in a wide sense including many groups of stakeholders will decide this.

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