

To a new balance of forces : How can librarians and researchers work together to regain control on the dissemination of scientific information ?

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Abstract

Two essential movements can be observed in the innovation of scholarly communication i.e. Open Access on one side and the Open Archives Initiative on the other. The first being a more individual choice of the researcher, the latter being either a more institutional or subject-oriented way of providing access to scientific information. Although these proposals to replace the old publication model are mainly oriented towards the academics, the results of their choices will have important implications on libraries and institutional budgets. This paper makes a plea for both parties to work together towards a profitable solution for each of them, not so much as an action out of enmity against commercial publishers, but rather as a way to cope with the growing danger of monopolism in the scientific publication market. This matter brooks no delay at all, especially if the researchers and with them the whole academic scene, plan to regain control on the dissemination of scientific information.

1 Introduction

The scholarly research system and the academic communication system with it, is going through a time of great change. As we are living right in the midst of those new developments, it is sometimes hard to overlook the revolutionary trends in which scholarly research tends to transform itself. Emphasis on the topic has already been widespread in the inner circle of the “business”. What is of greater importance is that the author himself knows what to do and where he’s standing in the context of the current business models of scholarly journals. This study aims to clearly show the still changing models to the authors so that the research journal-affordability problem for the librarian and the consortium e-resources purchaser could perhaps be solved at the same time as the research article access/impact problem.¹

The revolution going on in scholarly communication nowadays shows a lot of similarities with the revolution started by the printed book. At the time of Philips the Good, the demand for books had become so high, that a more economic i.e. less expensive and faster way of production, was urgently needed. A transition period became a fact at the moment artisans started to integrate loose illuminated miniatures in printed works and incorporated copies of printed images in handwritten manuscripts. That democratic movement into bibliophilia led towards the highly estimated, full printed book.

One could compare the need towards that more democratic spread of information, to the one that led towards the step taken by libraries and research institutions all over the world, when the serials crisis urged for something to escape: to turn to e-publishing . A major difference however is that the economic factor then had a real positive influence on the Gutenberg revolution, whereas today it obstructs the evolution towards Open Access. Even worse; it has become nowadays a false prerequisite to charge twice: both for the traditional based subscription model and for the e-access of that same material, in the best case for small extra features.

This commercial benefit at the publisher’s side, is working against the natural ‘invisible’ market forces. Libraries are therefore forced into a commercial situation, with which they never had to deal before. In the transition from manuscript to printed book, the end-user or reader knew perfectly well what was to be the

product at the end of the chain i.e. a printed work in the hands of the reader. At this moment, no one knows yet the real definition of what is to be the end-product.

An essential step here is to define exactly: “What do we want – as a researcher, author, librarian, ‘knowledge manager’ or e-purchaser for consortia? And what will be the upcoming strategy on the publisher’s terrain?” Of course there has to be a cheaper way towards dissemination of scholarly communication... and what about a way back to research being delivered through more controllable and visible channels than via the difficult path in the current overwhelming jungle?

2 Two possible roads forwards

Two essential movements can be observed in the innovation of scholarly communication i.e. the Open Archives Initiative on one side and Open Access on the other. The first being either a more institutional or subject-oriented way of providing access to scientific information, the latter being a more individual choice of the researcher.

A short history: ²

With the pressure of the *Serials Crisis*³ on the one hand and the growing possibilities of the Internet on the other, Stevan Harnad started a debate on how the publication process of scholarly communication could be changed in the future by launching his *Subversive Proposal*.⁴ He suggested a self-archiving solution where authors put their peer reviewed, post-print articles on institutional servers, thus making their work freely available for all.

Publishers saw no threat in this movement and initially even supported it but their opinion changed drastically the moment they started providing electronic access to their own collections.

A number of declarations elaborated the new ideas: Budapest Open Access Initiative saw two possible routes to Open Access: either self-archiving or open access journals,⁵ the Bethesda Statement and Berlin Declaration redefined the idea of copyright.⁶

- Open Archives Initiative (OAI) stands for a content chain whereby researchers provide an electronic copy of their article through a subject-oriented or institutional repository. Authors can either put a preprint version or a post-print on the servers.

Universities or consortia can thus become their own publishers. All information needs to meet the Open Archives Initiative Protocol⁷ to make sure the exchange of information worldwide is optimal. Access to an article in institutional repositories can be more differentiated by the author according to his public. i.e. he can decide readers within his institution are allowed to read his article immediately, readers worldwide can access the article after 6 months.

There is no need to change internal financial flows in this model, but the costs for maintaining servers, personnel is not to be neglected. Since OAI is usually organised within the institution and the publication process is completely electronic, the publication chain is very short and the worldwide dissemination of research results is done on a much larger and faster scale than in the traditional and even in the OA publishing models. Through the Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH) possibilities for interoperable peer review and impact analysis have been created.⁸

- On the Open Access (OA) road, authors need to be persuaded to make their paper openly available and accessible. OA is all about immediate and eternal free access, not about libraries’ budget crisis, although the latter unmasked the problem about freely access for all would-be users.

But asking a researcher not to try to publish his paper into an A-listed journal, will in his eyes be like asking for scientific suicide. For the OA model to be successful, we have to give the right incentives to the actors in the publishing chain, the first being the researcher-author himself.⁹ He is the one striving for recognition. He wants his/her scientific results disseminated in the broadest way possible. The system one of our universities is using at this moment could be a good motivation: researchers are encouraged to put their working paper in the institutional repository for their colleagues to review, on this base they will get extra funding money. Other motivation to go for the ‘real’ OA, is to give the assurance towards the researcher that his paper will be treated in the same way as an A-rated journal from the classical chain.¹⁰

OA always involves a publisher between researchers and end-users. Most of these publishers are heavily subsidised and there is still a lot of discussion going on to find a correct business model to make the OA publishers/journals self-reliant. The existing range of business models that can be used for the publication of a

refereed scientific journal leads towards a too wide diversity.¹¹ Because of the publisher's involvement we will have to make sure not to create new monopoly positions on the commercial side.

Most of the mentioned models demand for payment of an author or institutional fee to get articles published, this demands for a sudden change in the internal financial flow of the universities budgets that need to be re-allocated. This factor will certainly slow down the transition process.

A strong push forward came from the UK government with its questionnaire on scientific¹³ publishing and from Google when it announced its Google Print program.¹⁴

A negative proof of the fact that Open Access is starting to grow comes from the commercial publishers who, when in the past they laughed away the idea of Open Access, for 2005 propose different Open Access models to their authors.¹⁵ It could be very important for researchers, readers and librarians to know the benefits and footangels for all parties concerned before moving to one of these models and after a few years become entangled in the same financial problems we see today.

An important question here is: "How far will the author (or his institution) go, because publishing in OA is not for free?" A factor which does not ease the position of the researcher are the significant payments they receive to take part in an editorial board of the highly qualified commercial journals.

3 Will these new evolutions be an adequate answer to the problems researchers and libraries have to cope with currently ?

Our job as a consortia-purchaser is situated between the authors who have no idea where their products will end up eventually and the end-users who very often do not see the financial difference between freely available internet information and the highly qualified and expensive e-sources their libraries are providing for them. Publishing within the scientific community has been done in the same way for about centuries. Since universities and polytechnics started to put pressure on their researchers to publish in high qualified journals and publishers saw their chance to make a lot of money out of this competition, it took librarians no time to realise their researchers were publishing highly important articles they would have to buy back at a very high price. In fact those institutions were and are still paying twice for the same: once for the research being done by the scientist, the second time to get access to the published article. The prices of paper journals rose to unseen heights in the nineties of the previous century.¹⁶

Fortunately for the readers and librarians, at the moment prices became unpayable, publishers started publishing their journals electronically. In the very early days of e-publishing publishers often granted free electronic access to a journal if you paid a full institutional subscription.

In a very short period readers and researchers from the biomedical and exact sciences saw all the advantages of e-journals : access from their desk on one mouse click away, 24 hours a day. Hence users became addicted to their scientific sweetshop. As soon as publishers realised the eager of their readers and the costs they had to make to maintain the e-versions, free access was replaced by paid access.

3.1 Elektron consortium and the Big Deal

From 2000 onwards the most commercially oriented publishers started selling their entire journal collection as a whole package. As a consequence librarians were put under a lot of pressure to buy those packages and thus provide access to a much larger collection than ever before. Not so much the wider access¹⁷ but the aspect of control became a considerable discussion point. Librarians saw their power to build a collection oriented to the needs of their researchers and readers vanish.

Universities on the other hand wanted to ensure their access to the A-listed journals within their institutions, reason why librarians had to agree to the so-called 'Big Deals' which not only included the top journals from a publisher but also the less important ones. Publishers only wanted to give access to their entire collection if the subscription base (and therefore their income) was large enough.

This meant that a university, even a large one as K.U.Leuven, could not afford such a package on its own. The Flemish government at that time had decided to provide money to the universities, 'hogescholen' and some scientific institutions, to create a (Flemish) network for digital information. While its initial goal was to buy bibliographic databases it soon proved to be the ideal platform to form a consortium with all those Flemish partners to gain access to a number of e-journal collections too.¹⁸ The Elektronconsortium was born.

Most of these deals are multi-year deals that give security to the publisher who is certain of his income and to the readers who maintain access to their highly valued collections. The other side of the coin is extra stress on library budgets: nearly all of the licenses include a non-cancellation clause. This means that libraries can cancel only a very small amount of their print subscriptions or none at all, if they want to maintain access to the electronic collection of a publisher. And even in maintaining the bought access, problems arise if a journal moves from one publisher to another or if the publisher's company is been taken over by another publisher. If a consortium has three major deals with an average price cap of 7% and their budgets are only rising with nearly 1.5% price index each year, it is very clear there will be no much room for new deals.

For the Flemish Elektronconsortium the total yearly cost of the Elsevier deal (this means the paper expenditure by the different universities and e-fee paid by Elektron) represents a larger sum than the overall amount received for all e-purchases with the Elektronconsortium from the Flemish government.

It can even be worse: some publishers consider paper and e-version of the same journal as two different products and charge 100% for print, 100% for the e-version with no guarantee for archiving. As a consequence, libraries who want to possess what they paid for in paper, have to pay twice for exactly the same content. A radical change towards ending your paper collection and going to e-only is not an option at this stage due to preservation problems and the high VAT rate on electronic products (21%) in Belgium.

Very few consortia managed to get out of the Big Deal (for example Triangle Research Libraries Network with Duke University and Elsevier)¹⁹ but most of them had to cope with their users who did not want to refrain from access²⁰.

3.2 Change now: Hybrid or beyond the current barriers?

To obtain a significant change we want to encourage our researchers to publish more and consciously in Open Access journals or to self-archive their articles. However we must be very careful that the current mixed situation (Big Deal + Open Access + Institutional repository) is not prolonged too long due to the unbearable accumulation of financial tension on libraries and institutional budgets.

At this moment Flemish libraries pay the amount of paper spent plus an extra e-fee but their institutions or the libraries must also pay the author fees or a membership fee if their researchers publish in an open access journal. On top of that they have to invest in the installation and maintenance of their institutional repository. Is this the hybrid library we will still be able to afford within five years?

If we look at the current situation, institutions are paying much larger sums for their information than they used to. The LISU study shows that there is still between 2000 and 2004 a very important price increase with the publishers, in spite of the reverse effect one should expect in the context of the modern information technology.

'The range of price increases over the period 2000 to 2004 also varied considerably, from 27% (Cambridge University Press) to 94% (Sage).'²¹

Unless OA (through repositories or journals) reaches a critical mass within the next five years so that publishers have to react in a really significant way, researchers in the STM-field will either go on paying large amounts of money to get the information they want or loose access to important publications.

It will be financially unsustainable to maintain all the existing models in the same proportion as today.

Libraries/institutions are paying more than ever before and can't go on doing this for much longer.

It is important that the OA-pressure becomes big enough for publishers to lower their prices. Libraries will have to make sure that publishers like Springer keep their promise to lower subscription prices according to the number of open access articles in a journal.²²

In our opinion there will still be a market for commercial publishers – with whom we can coexist in peace - but they will have to accept lower profit rates. In the past a different publication tradition for several disciplines existed in a certain way because of the fact that exact and biomedical sciences published more in journals, humanities were and are more monograph oriented. It is our belief that this system will become and already is more diverse but that you will see certain groups/disciplines oriented to a certain publication road. Consortia could be helpful by providing a repository service to some or all of their members.

4 Conclusions

What can/shall we do? How to solve this financial suicide for librarians and consortium purchasers in order to re-define acquisition in the context of what an e-library of the future should be? And how to give back science to his source, the scientist himself?

It is very important researchers, readers and librarians from one institution or consortium should provide each other correct and recent information on the benefits and negative points of the new publishing models that are evolving at this very moment.

We do not want to deliver the final answer; but what is needed is an answer and preferably right away: there is no time to loose in the current hybrid model.

In the chaos around the new order in the scientific information processes, more and more a vision becomes clear: the author, the researcher has to choose for a sustainable model ... we believe it is part of our role to convince them to take that risk.

We wanted to make clear that the current researchers have the key to make decisions that will heavily influence the future accessibility of research output. By showing them the overall picture we hope to have verified that we are willing to support them but that they have to go for the new models themselves and in this way work towards a solution that will be an answer to the article access/impact problem and at the same time solve the journal-affordability problem for the librarian.

Notes

- 1 <http://www.ecs.soton.ac.uk/%7Eharnad/Temp/impact.html>; Stevan Harnad – a fervent proponent of the self-archiving movement - states that both problems are indeed connected but that solving the first one doesn't really solve the second.
- 2 A more elaborated overview can be found with David Prosser in: Prosser, D. (2004) The next Information Revolution – How Open Access Repositories and Journals will Transform Scholarly Communications. *Liber Quarterly*, 14 or on Peter Suber's website: <http://www.earlham.edu/~peters/fos/overview.htm> last visited 29-04-05.
- 3 First mentioned in (March 1998), To publish and Perish, *Policy Perspectives*, 7, special issue, from <http://www.arl.org/scomm/pew/pewrept.html>, last visited 30-04-05.
- 4 Harnad, S. (1995) A Subversive Proposal. In: Ann Okerson & James O'Donnell (Eds.) *Scholarly Journals at the Crossroads; A Subversive Proposal for Electronic Publishing*. Washington, DC., Association of Research Libraries, June 1995. , from <http://www.arl.org/scomm/subversive/toc.html>, last visited 30-04-05
- 5 <http://www.soros.org/openaccess>, last visited 30-04-05.
- 6 <http://www.earlham.edu/~peters/fos/bethesda.htm>, last visited 30-04-05 and <http://www.zim.mpg.de/openaccess-berlin/berlindeclaration.html>, last visited 30-04-05.
- 7 <http://www.openarchives.org/OAI/openarchivesprotocol.html>, last visited 30-04-05.
- 8 Van de Sompel, H. and Lagoze, C., The OAI and OAI-PMH: where to go from here?, from <http://agenda.cern.ch/askArchive.php?base=agenda&categ=a035925&id=a035925s7t1/transparencies>, last visited 30-4-05 and Hitchcock, S., Woukeu, A., Brody, T., Carr, L., Hall, W. and Harnad, S., *Evaluating Citabase, An Open Access Web-based Citation-Ranked Search and Impact Discovery Service* (2003), from <http://opcit.eprints.org/evaluation/Citebase-evaluation/evaluation-repot.html>, last visited 30-04-05.
- 9 The conservatism in academic habits is one of the major obstacles towards the OA road – see also: Parks, R. (2002), The Faustian grip of academic publishing. *Journal of Economic Methodology*, 3, 317-335.
- 10 This matter has been debated in a workshop on the euroCRIS 2004 conference lead by Raf Dekeyser. Dekeyser, R. (2004), OAI - The Publishing Revolution? In Nase, A. and Van Grootel, G. (eds.) *Putting the Sparkle in the Knowledge Society*, (p.177-178), Leuven University Press.

- ¹¹ See for a classification of journal business models (with examples included): Hedlund, T., Gustafsson, T. and Björk, B.-C., (2004) The open access scientific journal: an empirical study. *Learned Publishing*, 17, 202.
- ¹³ Scientific Publications: Free for All? The report from the House of Commons Science and Technology Committee (July 20, 2004), from <http://www.publications.parliament.uk/pa/cm200304/cmselect/cmsctech/399/39902.htm>, last visited 30-04-05.
- Scientific Publications: Free for All?: The Government Response (dated November 1, released November 8, 2004) from <http://www.publications.parliament.uk/pa/cm200304/cmselect/cmsctech/1200/120002.htm>, last visited 30-04-05.
- Committee reply to the government response, from <http://www.publications.parliament.uk/pa/cm200304/cmselect/cmsctech/1200/120003.htm>, last visited 30-04-05.
- ¹⁴ Announcement on Google Print, from http://www.google.com/press/pressrel/print_library.html, last visited 30-04-05.
- ¹⁵ Oxford Journals takes bold step towards free access to research, from <http://www3.oup.co.uk/jnls/list/nar/narpressjun04.pdf>, last visited 30-04-05.
- ¹⁶ <http://www.arl.org/stats/arlstat/graphs/2002/2002t2.html>, last visited 30-04-05..
- ¹⁷ In spite of the e-evolutions, librarians of the 21st century are confronted with a real change in their traditional performance: libraries are no longer buying goods, they are just buying access.
- ¹⁸ http://www.libis.be/vowb/elektron_en.html and Bergé, K. (1999). Elektron: Elektronische informatie voor Vlaamse Wetenschappelijke bibliotheken. *Mediagids*, 4, 37-57.
- ¹⁹ <http://www.trln.org/elsevier%20memo.pdf>, last visited 30-04-05.
- ²⁰ Gatten, J. N., & Sanville, T. (2004). An orderly retreat from the big deal: Is it possible for consortia? *D-Lib Magazine*, 10,10
- ²¹ Scholarly Journal Prices: Selected Trends and Comparisons (Sonya White & Claire Creaser, LISU, 2004), from <http://www.lboro.ac.uk/departments/dis/lisu/pages/publications/oup.html>, last visited 29-04-05 or from <http://www.lboro.ac.uk/departments/dils/lisu/downloads/op34.pdf>, last visited 29-04-05.
- ²² Haank, D. (2004). Springer plans evolution not revolution. *Information World Review*, 208, 18.